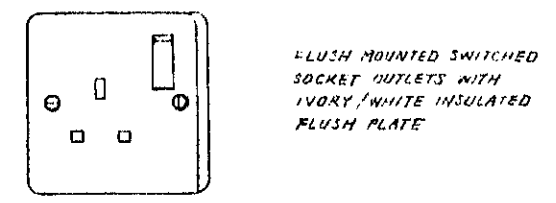
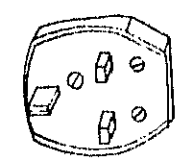


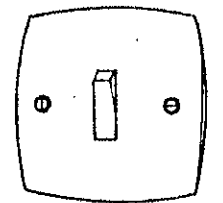
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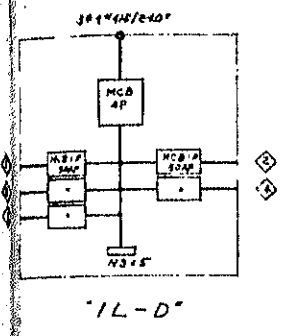
13A SWITCH SOCKET OUTLET



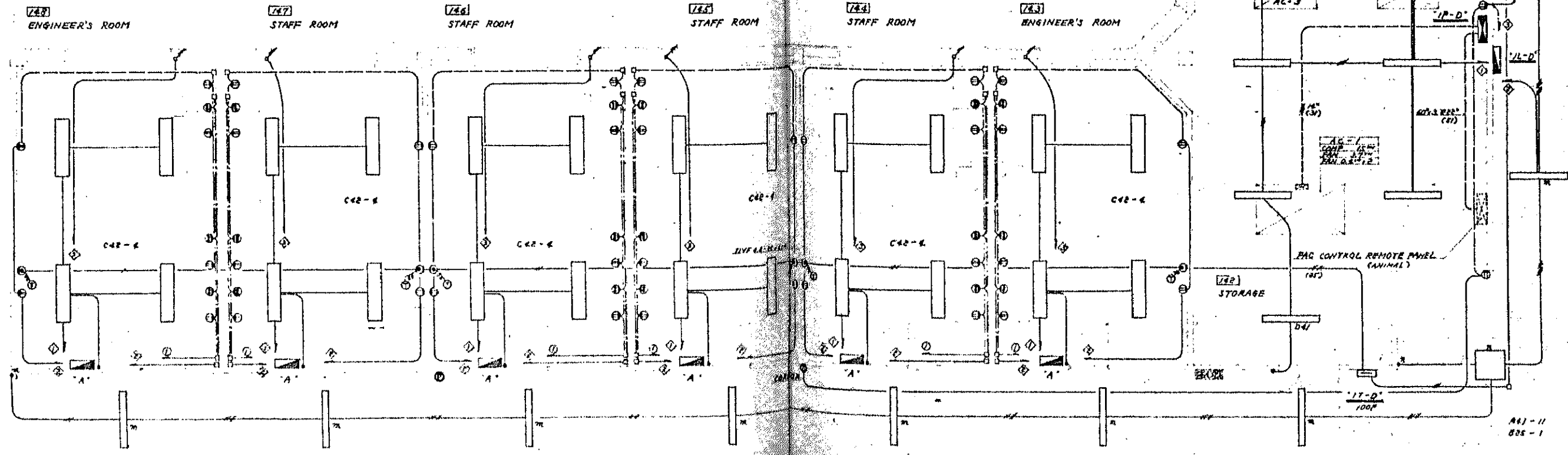
13A 250V FUSED MOUNTED PLUG
DETAIL

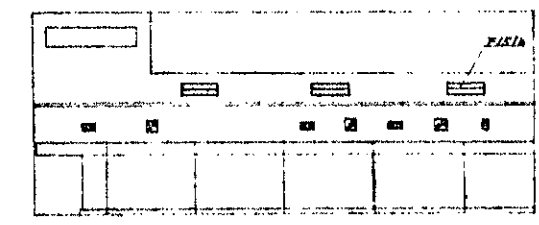
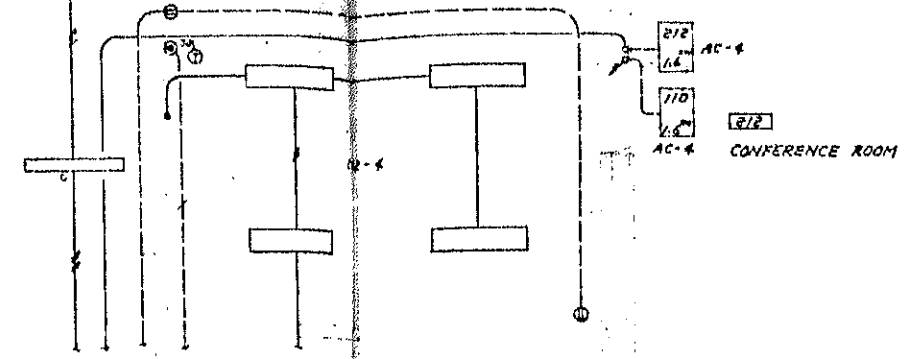
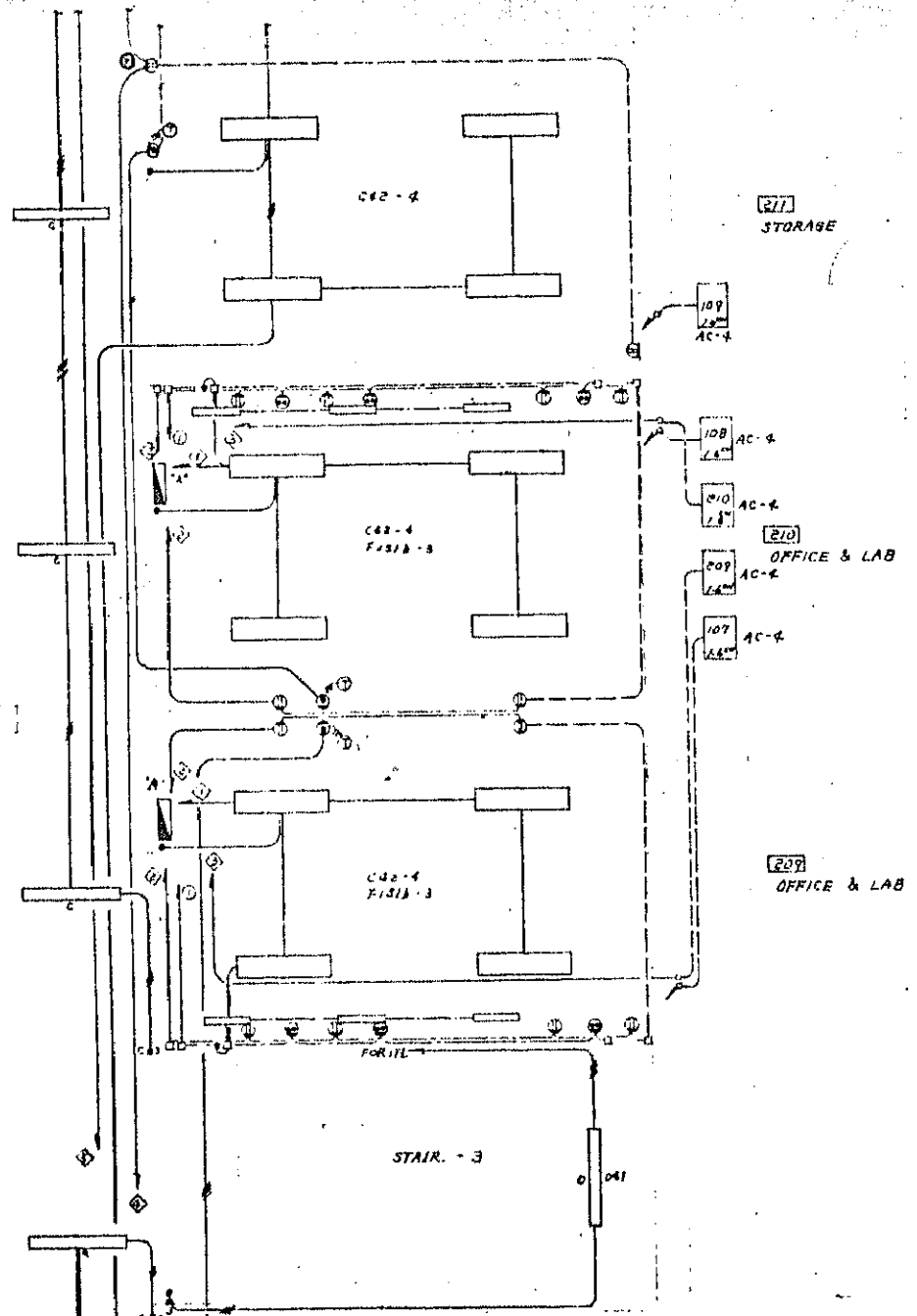


5A 1 GANG 1 WAY SWITCH
DETAIL



FLUSH MOUNTED SWITCHES
WITH GREY/WHITE INSULATED
FLUSH PLATES

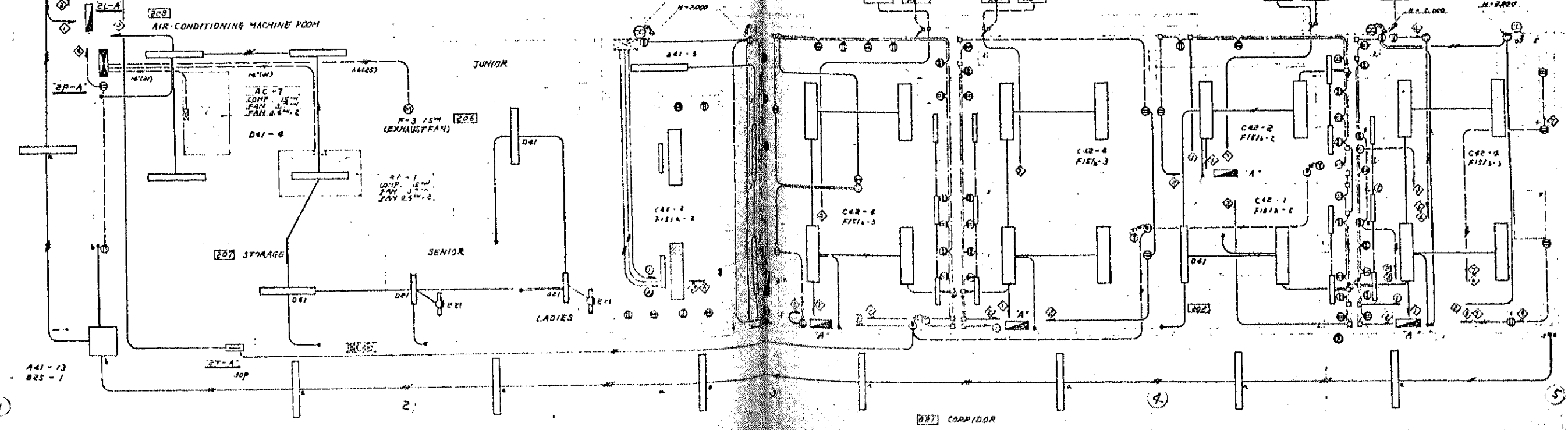


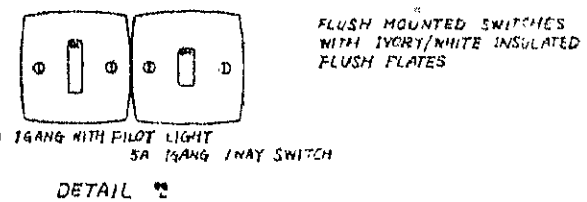


EQUIPMENT LIST

RM. NO.	ITEM	SIZE	CAPACITY	DESCRIPTION
201	1. DISTILLING APPARATUS	140"	3000"	
	2. DRYING MACHINE	180"	3600"	
	3. HOT AIR OVEN	140"	4000"	
	4. AUTOCLAVE	240"	2000"	
	5. AUTOCLAVE (SMALL)	240"	1500"	
	6. AUTOCLAVE	240"	2000"	
	7. WASHING MACHINE	340"	3000"	
	8. THERMAL STORAGE HEATER	20"	1000"	电热加热器
202	1. MICROSCOPE	100"	100"	
	1. MICROSCOPE	100"	100"	
203	2. WATER BATH	100"	1200"	
	3. COLONY COUNTER	180"	600"	
	1. REFRIGERATOR	240"	600"	
208	1. DEEP FREEZER	100"	1500"	
	2. DEEP FREEZER	100"	1500"	
	3. DEEP FREEZER	100"	1500"	

NOTE: LABORATORY EQUIPMENT SYMBOLS





EQUIPMENT LIST

RM NO	ITEM	VOLTAGE	CAPACITY	DESCRIPTION
[2/3]	1. DISTILLING APPARATUS	240V	3,500"	
	2. DRYING MACHINE	240V	3,600"	
	3. HOT AIR OVEN	240V	4,000"	
	4. AUTOCLAVE	240V	2,000"	
	5. AUTOCLAVE (SMALL)	240V	1,200"	
	6. AUTOCLAVE	240V	2,000"	
	7. WASHING MACHINE	240V	3,000"	
	8. THERMAL STORAGE HEATER	100V	1,000"	電熱式加熱器
	9. FREEZE DRYING MACHINE	240V	3,600"	
[2/5]	1. ICE MAKING MACHINE	240V	100"	
	2. ULTRA LOW TEMPERATURE	EP 240V	3,500"	
	3. REFRIGERATED CENTRIFUGE	3P 415V	2,000"	
	4. ULTRA CENTRIFUGE	240V	3,600"	
	5. THERMAL STORAGE HEATER	100V	1,000"	電熱式加熱器
	6. THERMAL STORAGE HEATER	100V	1,000"	電熱式加熱器

NOTE: LABORATORY EQUIPMENT BY OTHERS

EQUIPMENT LIST

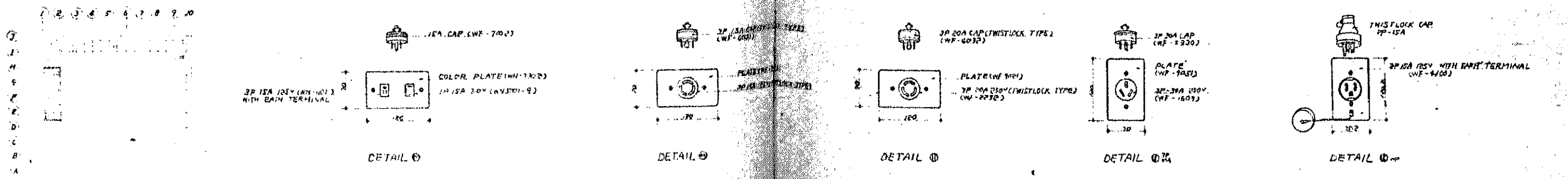
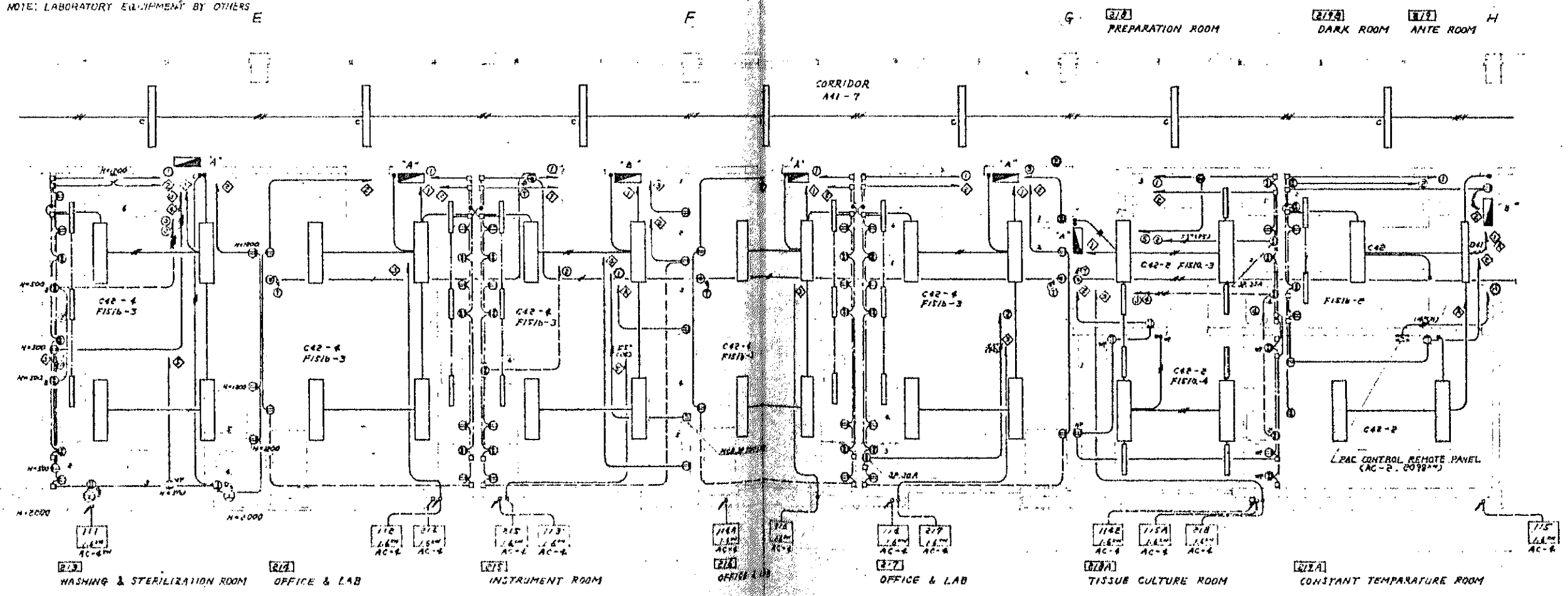
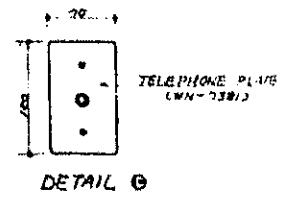
RM NO	ITEM	VOLTAGE	CAPACITY	DESCRIPTION
[2/7]	1. DEEP FREEZER	EP 100V	1,300"	
	2. REFRIGERATOR	100V	300"	
	3. CENTRIFUGE	100V	3,000"	
	4. INCUBATOR	240V	1,300"	
	5. MICROSCOPE	100V	100"	
	6. MICROSCOPE	100V	100"	
[2/8]	1. INCUBATOR	240V	1,300"	
	2. CENTRIFUGE	100V	3,000"	
	3. DEEP FREEZER	EP 100V	1,500"	
	4. THERMAL STORAGE HEATER	100V	1,000"	電熱式加熱器

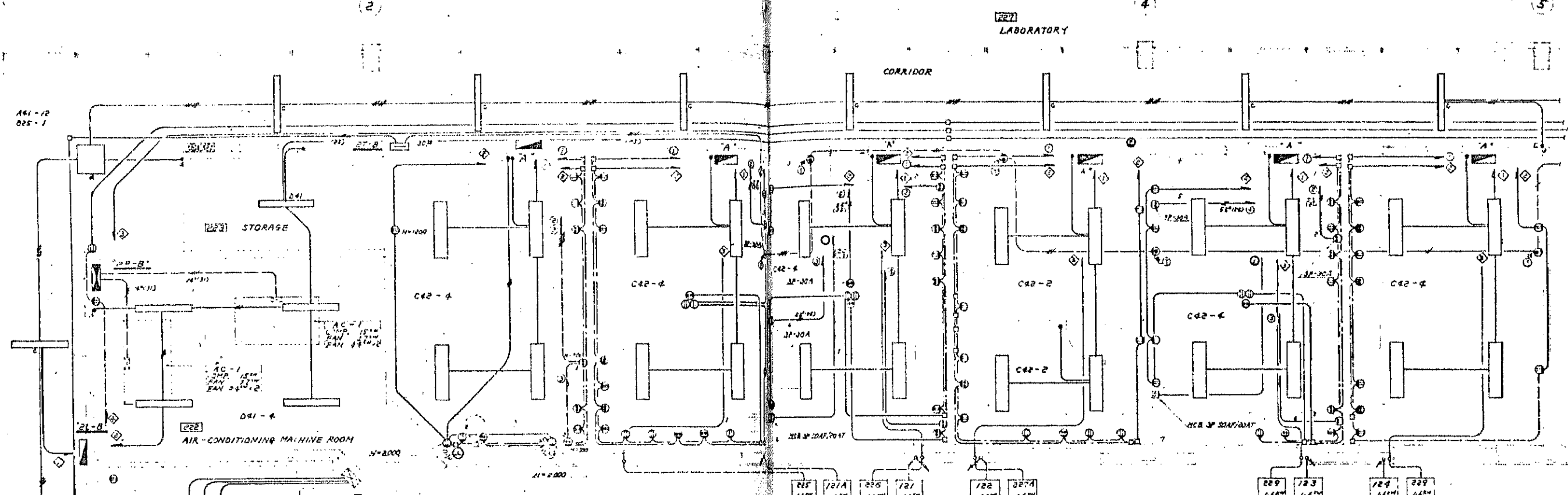
NOTE: LABORATORY EQUIPMENT BY OTHERS

EQUIPMENT LIST

RM NO	ITEM	VOLTAGE	CAPACITY	DESCRIPTION
[2/4]	1. REFRIGERATOR	240V	600"	
	2. THERMAL STORAGE HEATER	100V	1,000"	電熱式加熱器
[2/9]	1. MICROSCOPE	100V	100"	
	2. EGG CULTURE INCUBATOR	EP 100V	1,300"	

NOTE: LABORATORY EQUIPMENT BY OTHERS

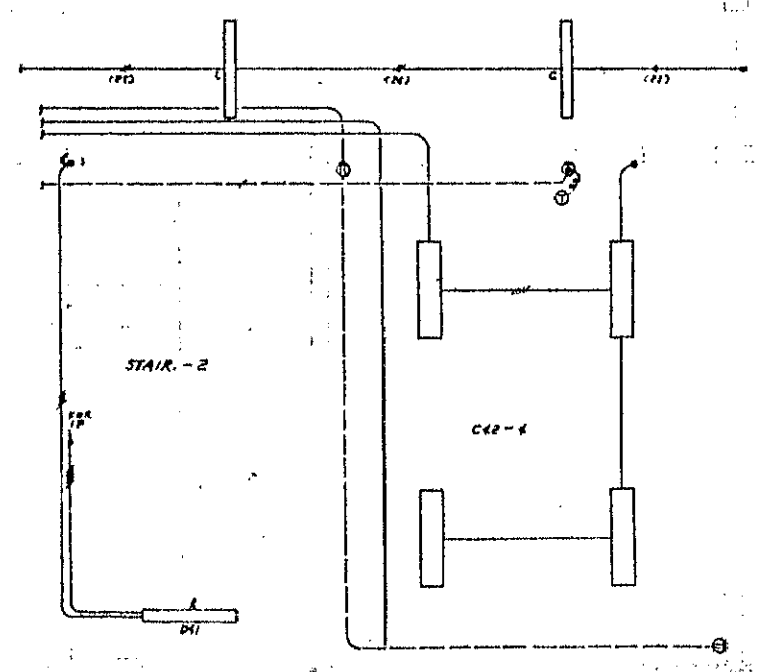




EQUIPMENT LIST

NOTE: LABORATORY EQUIPMENT BY OTHERS

RM NO.	ITEM	VOLTAGE	CAPACITY	DESCRIPTION
[220]	1 DEEP FREEZER	EP 100V	1,500W	
	2 REFRIGERATOR	240V	300W	
	3 BENCH CENTRIFUGE	100V	3,000W	
	4 SHAKER (TUBE)	100V	300W	
	5 R.I. COUNTER	100V	100W	
	6 FUME HOOD	415V	400W	
	7 REFRIGERATED DISHWASHER	415V	12,000W	
[224]	1 DEIONISER	100V		
	2	100V	600W	超淨水生成機
	3 THERMAL STORAGE BOX	100V	1,300W	電氣冷藏箱 200L
[225]	1 AUTOMATIC ASSEMBLY	100V	140W	
	2 REFRIGERATOR	240V	300W	
	3 CENTRIFUGE	100V	3,000W	
[226]	1 AMINO ACID ANALYZER	EP 100V	2,500W	
	2 ROTARY EVAPORATOR	100V	1,500W	
	3 REFRIGERATOR	240V	300W	
	4 CENTRIFUGE	100V	3,000W	
	5 SAC CHROMATOGRAPH	100V	1,900W	
[227A]	1 FUME HOOD	415V	400W	
	2	240V	500W	
	1 CHLORIDE METER	100V	100W	
	2 OSMOMETER	100V	100W	
	3 FLAME PHOTOMETER	100V	90W	
[227B]	1 PH. METER	100V	5W	
	1 DOUBLE BEAM PHOTOMETER	100V	140W	
	2 AUTOMATIC DISHWASHER	100V	2,500W	
	3 IMMUNOPRECIPITATION	100V	1,900W	
	4 REFRIGERATOR	240V	300W	
[228]	5 CENTRIFUGE	100V	3,000W	
	6 POLAROGRAPH	140V	140W	
	7 FUME HOOD	415V	400W	

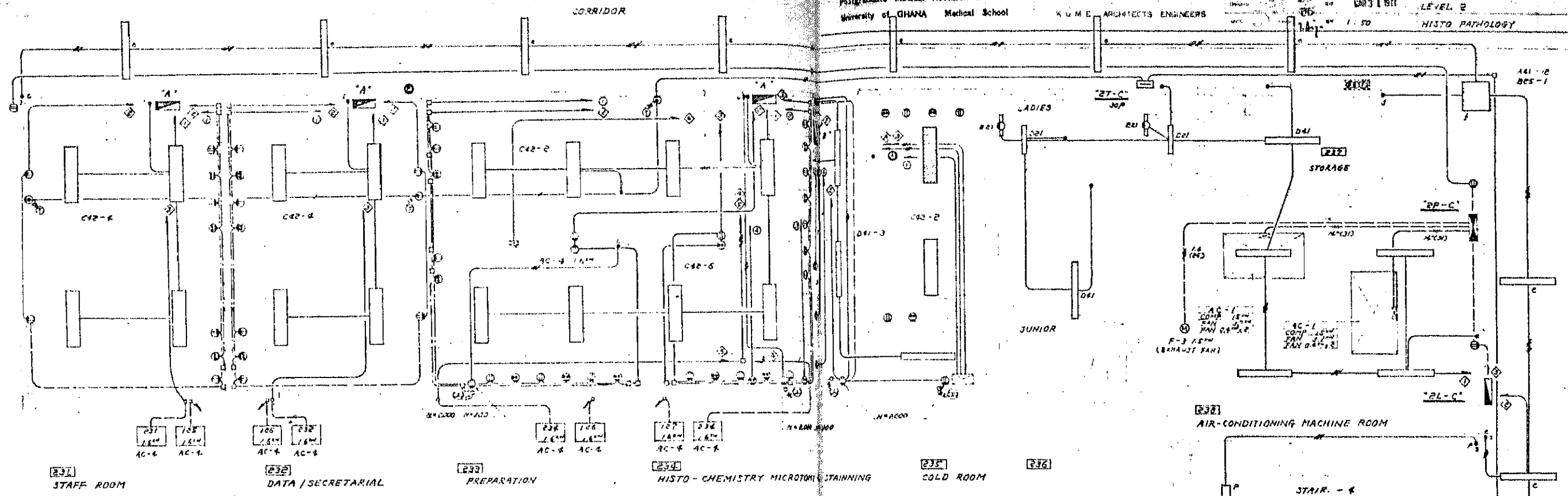


RM NO.	ITEM	VOLTAGE	CAPACITY	DESCRIPTION
[227]	1 DEEP FREEZER	EP 100V	1,500W	
	2 DEEP FREEZER	EP 100V	1,500W	
	3 DEEP FREEZER	EP 100V	1,500W	

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EQUIPMENT LIST

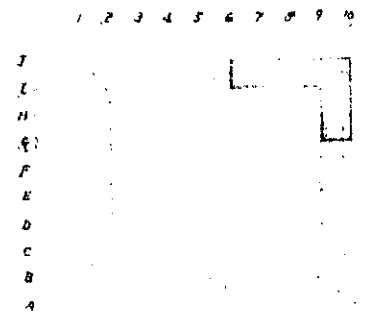
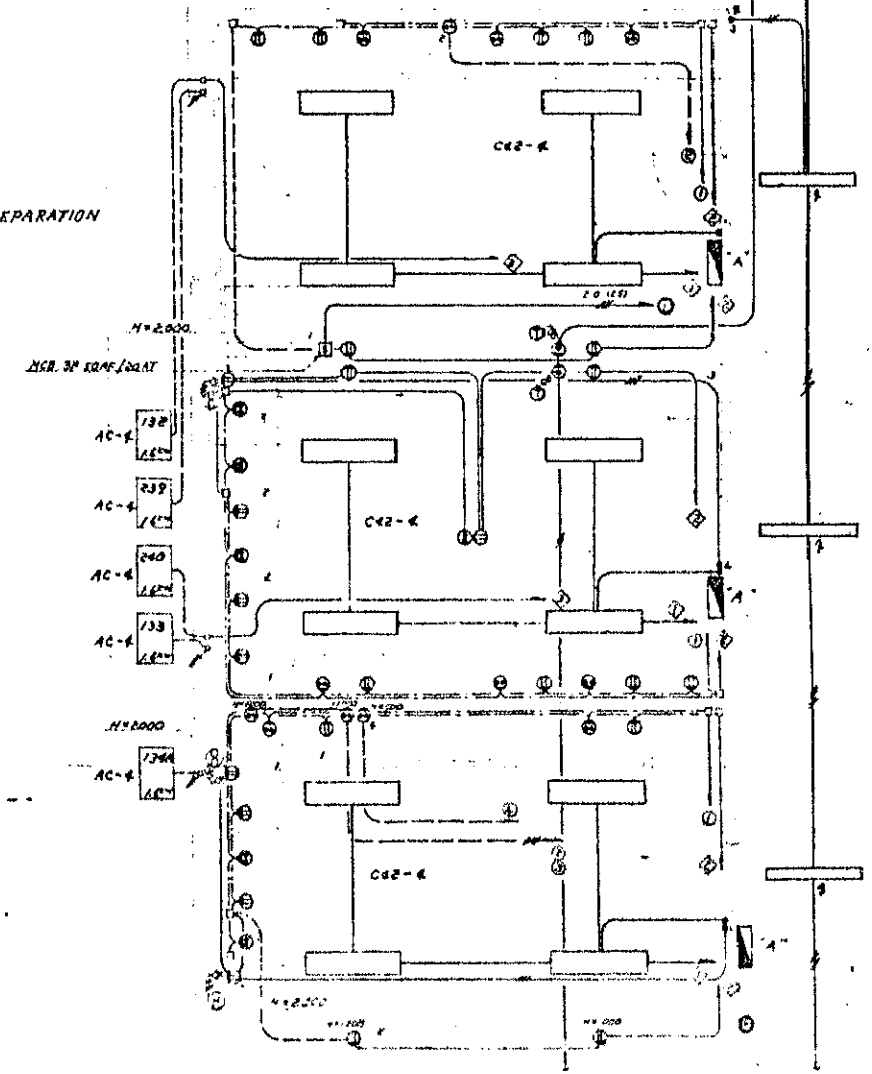
RM. NO	ITEM	VOLTAGE	CAPACITY	DESCRIPTION
233	1. MICROSCOPE	100 V	100 W	
	2. MICROPHONE	100 V	300 W	
	3. AUTOMATIC STAINER	EP 100 V	300 W	
234	1. INCUBATOR	100 V	1500 W	
	2. WATER BATH	100 V	1500 W	
	3. CRYOSTAT	100 V	300 W	
	4. DRY ICE MAKER	100 V	300 W	
	5. MICROSCOPE	100 V	100 W	
235	1. FUME HOOP	3P 215 V	400 W	
	2. THERMAL STORAGE HEATER	240 V	500 W	
236	1. AUTO/MAN PROCESSOR STAINER	100 V	100 W	
	2. MICROSCOPE	100 V	100 W	
	3. REFRIGERATOR	100 V	100 W	
237	1. DISTILLING PLANT	100 V	1500 W	
	2. AUTOCLAVE	240 V	2200 W	
	3. DRYING SCAFOLDING	100 V	1500 W	
	4. THERMAL STORAGE HEATER	100 V	1000 W	

NOTE: LABORATORY EQUIPMENT BY OTHERS.

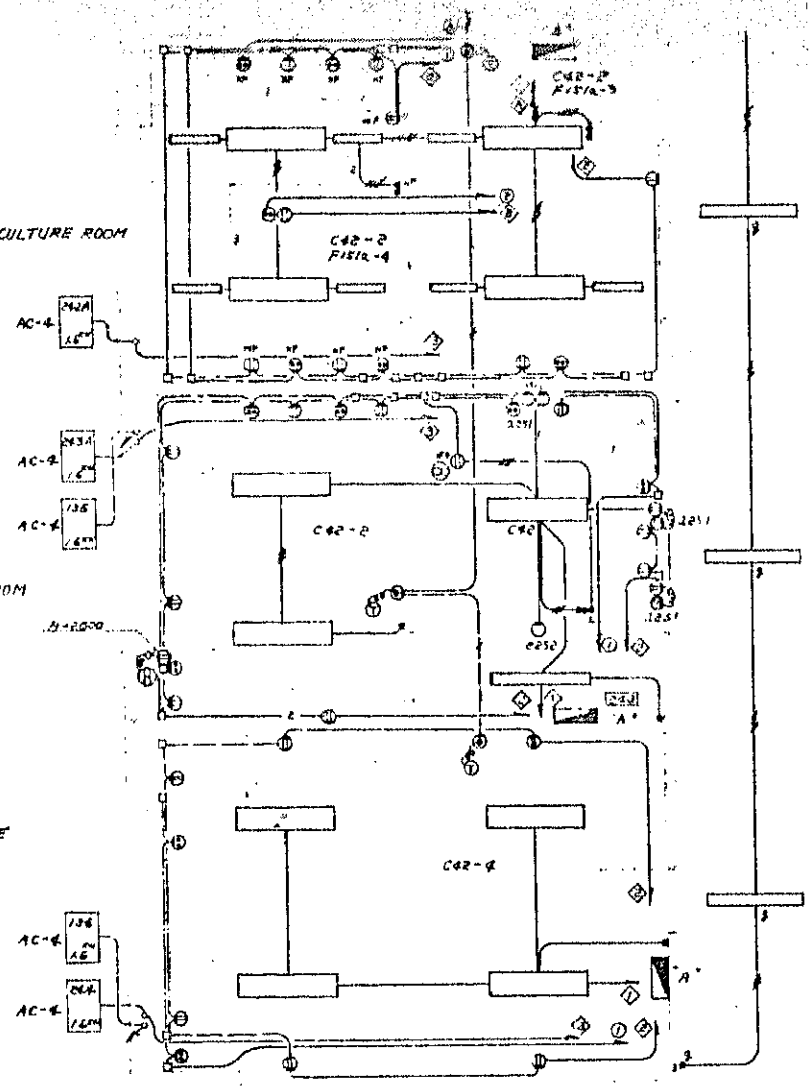
EQUIPMENT LIST

RM. NO	ITEM	VOLTAGE	CAPACITY	DESCRIPTION
235	1. DEEP FREEZER	EP 100 V	100 W	
	2. DEEP FREEZER	EP 100 V	100 W	
	3. DEEP FREEZER	EP 100 V	100 W	

NOTE: LABORATORY EQUIPMENT BY OTHERS.



[242A] TUMOUR TISSUE CULTURE ROOM



[242] PREPARATION ROOM

[243A] DARK ROOM

[243] ANTE ROOM

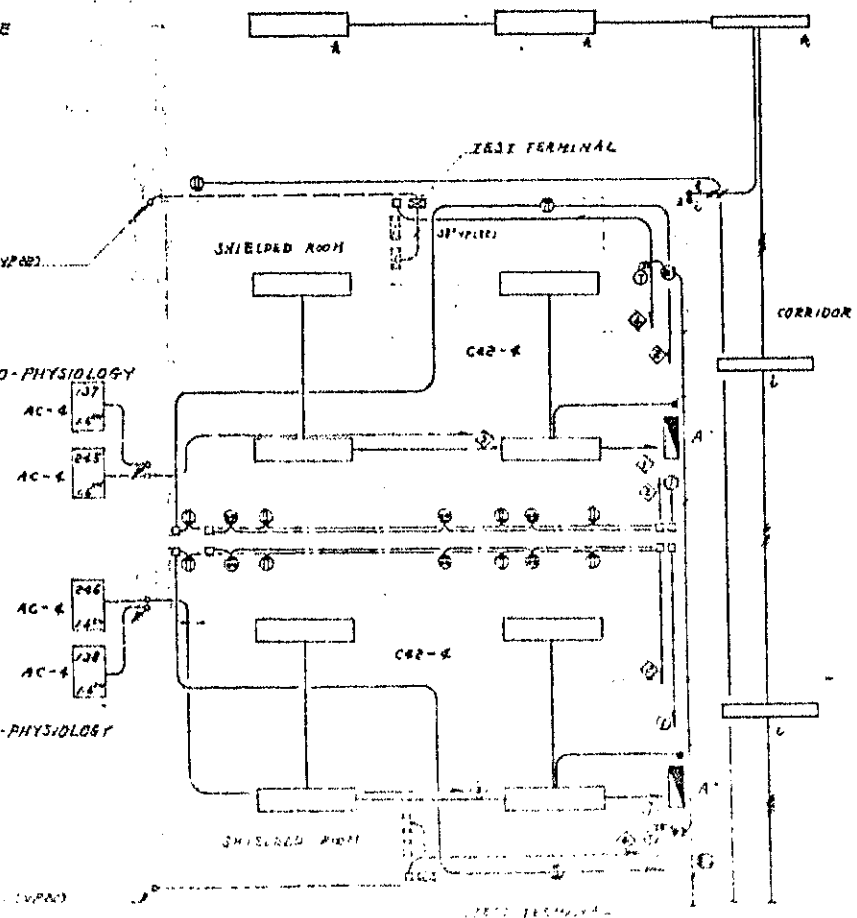
[243A] PREPARATION ROOM

[244] ANIMAL STORAGE

OPEN LOUNGE

[245] ANIMAL ELECTRO-PHYSIOLOGY

[246] HUMAN ELECTRO-PHYSIOLOGY



EQUIPMENT LIST

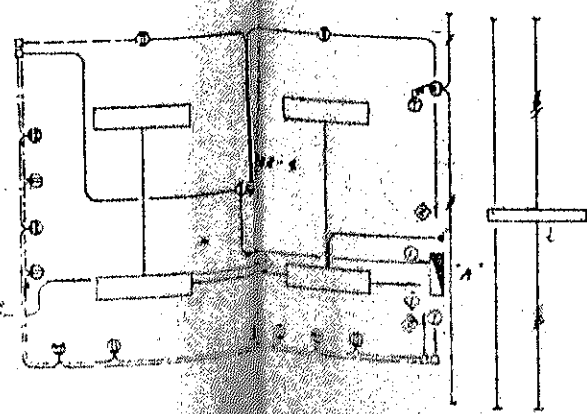
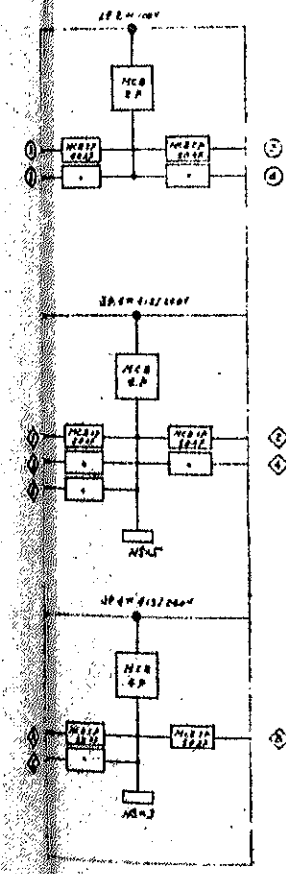
ITEM	VOLTAGE	CAPACITY	DESCRIPTION
1. INCUBATOR	100V	1500W	
2. REFRIGERATOR	240V	300W	
1. MICROSCOPE	100V	100W	
2. REFRIGERATOR	240V	300W	
1. PHYSIOGRAPH	240V		
2. RESPIROMETER	240V		
3. REFRIGERATOR	240V	300W	

NOTE: LABORATORY EQUIPMENT BY OTHERS

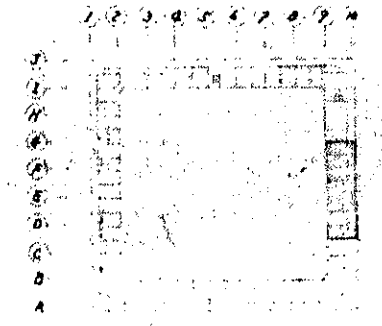
JIS CABLE		BS CABLE		REMARKS
400V	1V	PVC	PVC	
NOMINAL SECTION AREA AND DIA. METERS	NO. OF WIRES NOMINAL DIA. METERS	NOMINAL SECTION AREA AND DIA. METERS	NO. OF WIRES NOMINAL DIA. METERS	
12	2.8	1.0	1/113	2.9
16	3.2	1.5	1/130	3.1
20	3.6	2.5	1/148	3.5
25	7/1.0	5	7/0.47	3.8
30	7/1.0	6	7/0.45	4.3
35	7/1.0	8	7/0.45	4.7
40	7/1.0	10	7/0.35	4.2
50	7/1.0	16	7/0.27	4.3
60	7/1.0	25	7/0.19	4.0
70	19/0.2	13	19/0.153	4.3
80	19/0.2	14	19/0.138	4.0
100	19/0.2	17		
125	19/0.2	19		
150	37/0.3	21		
200	37/0.3	23		

TRADE SIZE	OUT SIDE DIAMETER
MM	MM
19	19.0
25	25.4
31	31.8
37	38.1
43	43.5
50	50.8
63	63.5
75	76.2

BRITISH STANDARD STEEL CONDUITS
 PLAN CONDUIT LIGHT GAUGE (CLASS A)



[247] CVS/AS

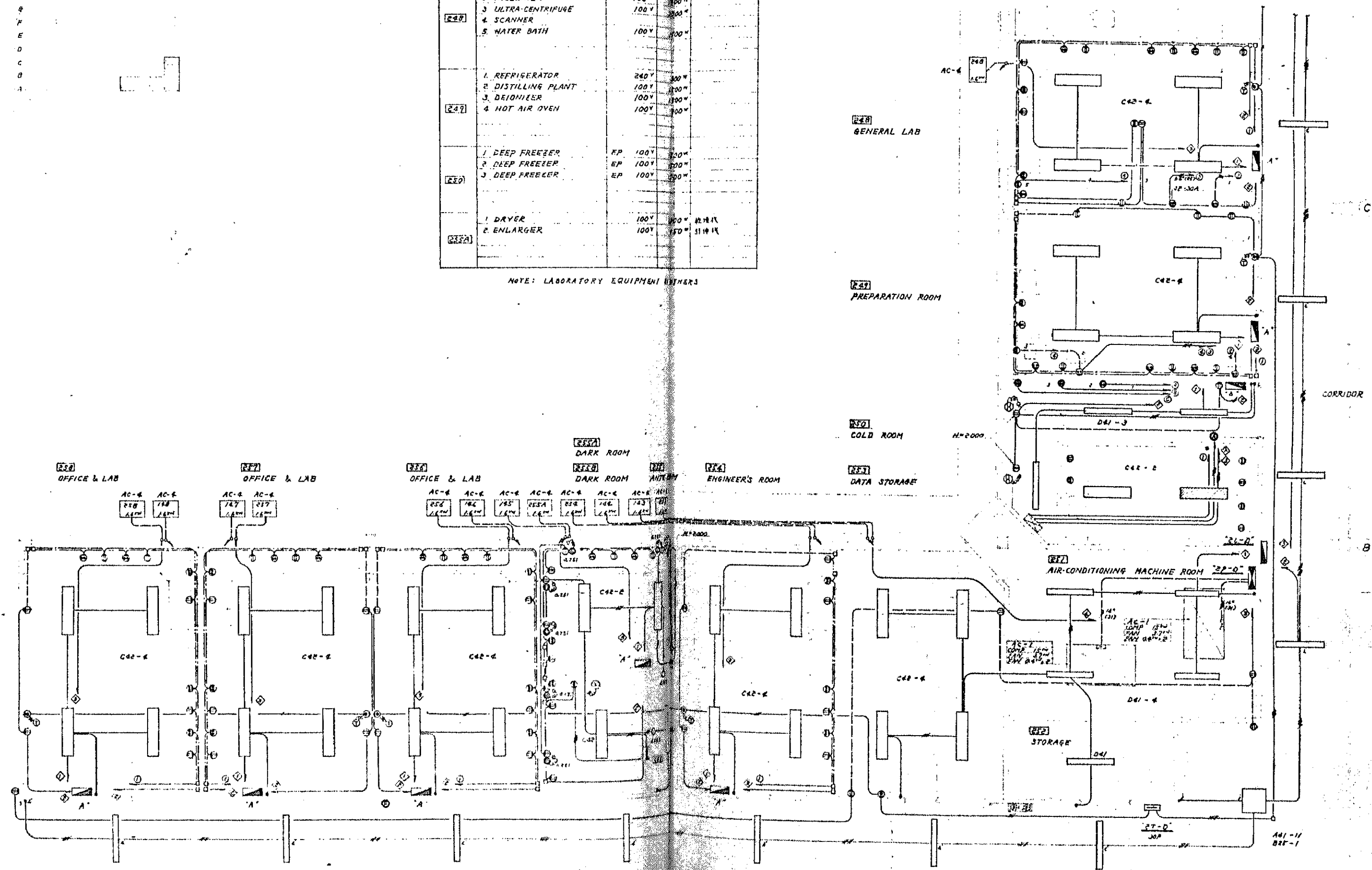


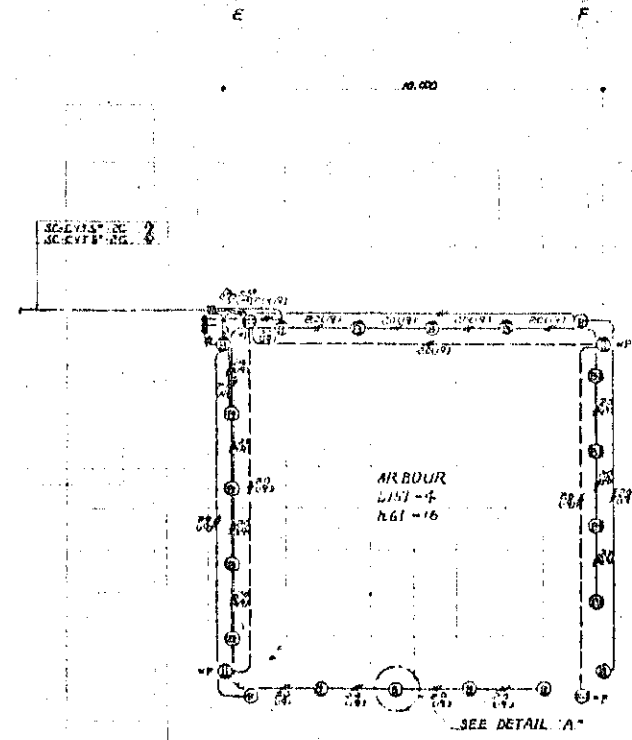
EQUIPMENT LIST

QM. NO	ITEM.	VOLTAGE	QTY	DESCRIPTION
[248]	1 REFRIGERATOR	240 V	100"	
	2 INCUBATER	100 V	100"	
	3 ULTRA-CENTRIFUGE	100 V	200"	
	4 SCANNER			
	5 WATER BATH	100 V	100"	
[249]	1 REFRIGERATOR	240 V	100"	
	2 DISTILLING PLANT	100 V	100"	
	3 DEIONIZER	100 V	100"	
	4 HOT AIR OVEN	100 V	100"	
[250]	1 DEEP FREEZER	FP 100 V	100"	
	2 DEEP FREEZER	EP 100 V	100"	
	3 DEEP FREEZER	EP 100 V	100"	
[251]	1 DRYER	100 V	100"	乾燥機
	2 ENLARGER	100 V	100"	拡大機

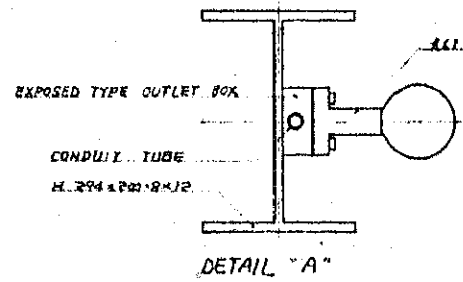
NOTE: LABORATORY EQUIPMENT OTHERS

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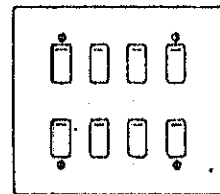




ARBOUR PLAN 5-1/100

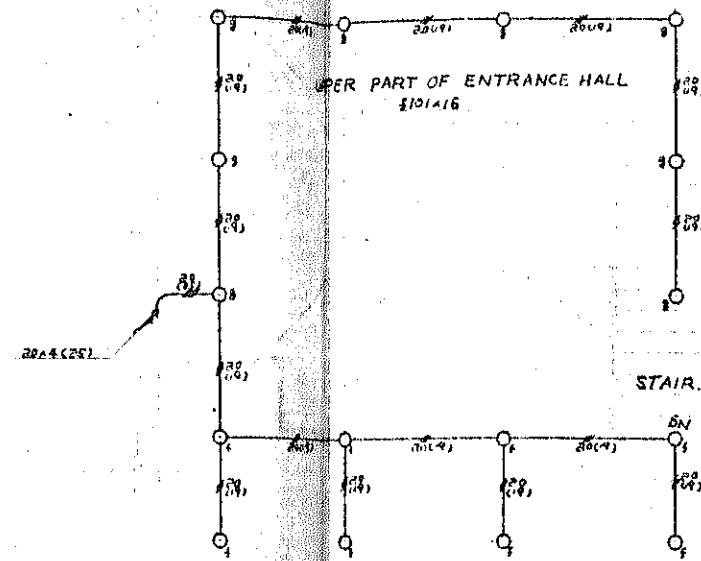


DETAIL "A"

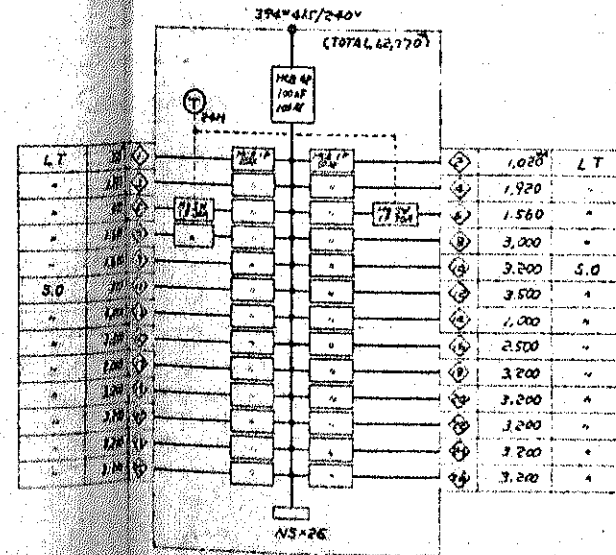


DETAIL "B"

FLUSH MOUNTED SWITCHES
WITH IVORY/WHITE INSULATED
FLUSH PLATES

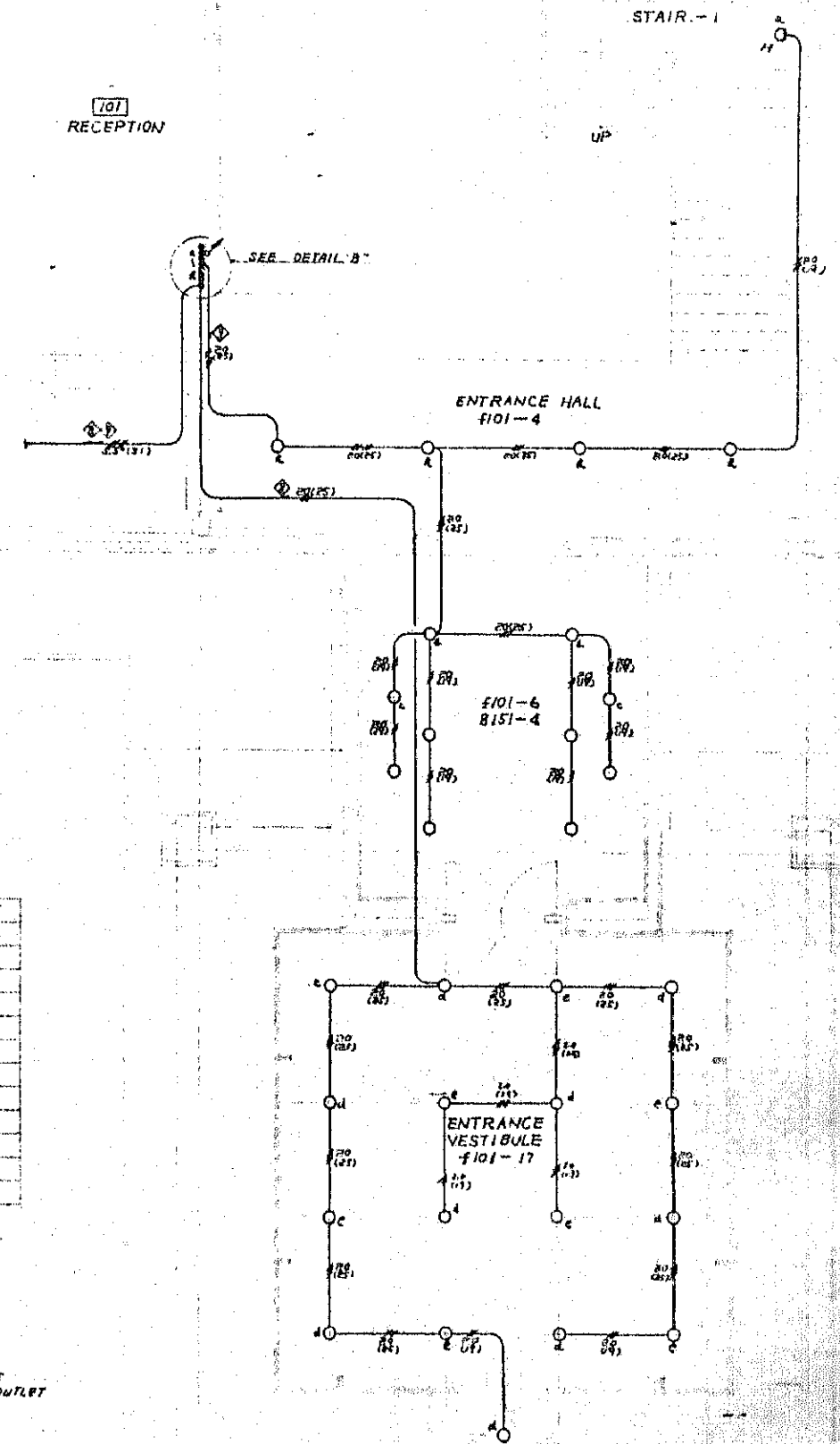


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"L-A"

NOTE
LT: LIGHTING
S.O: SOCKET-OUTLET



ENTRANCE PLAN 5-1/50

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6

SPECIFICATION OF TELEPHONE EXCHANGE SYSTEM

1. GENERAL

- THIS SPECIFICATION SPECIFY A 1000 LINE CROSSBAR TYPE TELEPHONE EXCHANGE SYSTEM SUPPLY TO MEDICAL RESEARCH INSTITUTE IN GHANA
- FINAL ACCEPTANCE FACILITIES BY ACCEPTANCE TEST TO BE PERFORMED BOTH AT THE MEDICAL RESEARCH INSTITUTE AND ACCRA UNIVERSITY.
- SUPPLIER UNDERTAKES TO REPLACE FREE OF CHARGE ANY DEFECTIVE EQUIPMENT PROVIDED TO DEFECTS OCCURRED WITHIN 12 MONTHS FROM THE DATE OF SERVICE BEGIN.

2. TELEPHONE EXCHANGE

- METHOD THIS TELEPHONE SYSTEM IS A COMMON CONTROL DIAL PABX HOUSED IN CABINETS
- LINE COMPOSITION

DESCRIPTION	CAPACITY	MOUNTED	USED	REMARKS
EXTENSION	92	92	74	
TOTAL CENTRAL OFFICE	16	16	2	USE FOR CBMT
TOTAL TIE LINE	16	16	10	
OUTGOING	8	8	5	USE FOR OUTG
INCOMING	8	8	5	USE FOR INCOM

3. NUMBERING

DESCRIPTION	CODE	NUMBER OF LIGHT	REMARKS
CENTRAL OFFICE CALL	0		
OPERATOR CALL	3		
OUTGOING TO TIE LINE	9		LABORATORY TO UNIVERSITY
INCOMING FOR TIE LINE	6		UNIVERSITY TO LABORATORY
STATION TO STATION CALL	2	3	

4. SERVICE FEATURE

- STATION-TO-STATION CALLING
- DIRECT OUTWARD DIALING
- ATTENDANT POSITION
- CALL TRANSFER-ATTENDANT (ATTENDANT RECALL)
- STEP CALL
- LINE LOCKOUT
- CLASS OF SERVICE-INDIVIDUAL
- NUMBER GROUP
- NIGHT CONNECTION-FIXED
- TIE LINE

3. ATTENDANT CONSOLE

- TYPE DESK TOP TYPE CORDLESS ATTENDANT CONSOLE DIAL SPEED 10PPS.
- QUANTITY 1SET
- OPTIONAL FEATURE
 - STATION BUSY LAMP FIELD.

4. MAINTENANCE TOOLS AND TESTERS

- MANUAL WRAPPING TOOL. 2 EA
- NO.1 UNWRAPP TOOL. 2 "
- NO.1 TEST LAMP. 1 "
- CROSSBAR SWITCH ADJUSTING TOOL KIT. 1 "
- WIRE SPRING RELAY ADJUSTING TOOL KIT. 1 "
- PBX NO.7 TOOL KIT. 1 "
- LINE TEST HEADSET. 1 "
- 413 TEST HEADSET. 1 "
- PBX NO.3 PORTABLE TEST SET. 1 LOT
- SPARE PARTS. 1 LOT

5. MAINE DISTRIBUTION FRAME , CABINET TYPE

FOLLOWING APPARATUS WILL BE SUPPLIED.

DESCRIPTION	CAPACITY	MOUNTED	REMARKS
TEST SPRING	15 EA	15 EA	
ARRESTER SPRING	2	2	
TERMINAL BLOCK 25X20	10	10	
TERMINAL BLOCK 20X20	4	4	

6. POWER SUPPLY EQUIPMENT

- CHARGER INPUT VOLTAGE AC 240V 9A SINGLE-PHASE OUTPUT VOLTAGE DC 42V 15A CHARGER WITH AVR 1SET
- BATTERY DC 48V 72AH PS TYPE LEAD-ACID BATTERY 1SET

7. TELEPHONE SET

ORDINARY TELEPHONE TYPE 8E TELEPHONE REQUIRED 100SET. USED 74SET

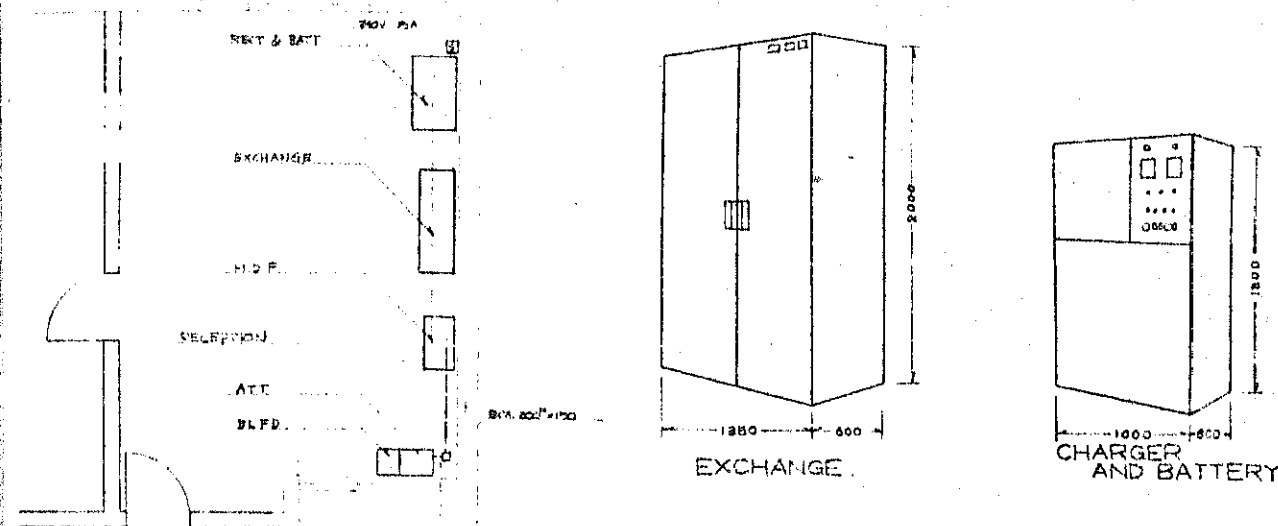
8. SPECIFICATION OF INSTALLATION

1. SCOPE OF WORK

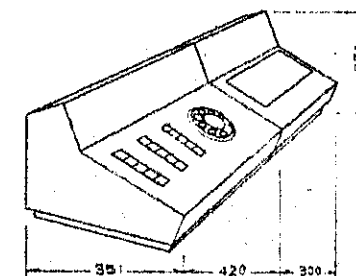
- TELEPHONE EXCHANGE, ATTENDANT CONSOLE, POWER SUPPLY EQUIPMENT.
- HOUSE CABLING BETWEEN MAIN DISTRIBUTION FRAME AND TELEPHONE SET IN THE MEDICAL RESEARCH INSTITUTE
 - MDF-TERMINAL BOX 0.5M/M LOCAL CABLE OR CCP-P 0.5M/M CABLE.
 - TERMINAL BOX-TELEPHONE SET FIVE 0.5M/M X 2 CORE CABLE.
 - OUTLET BOX-TELEPHONE SET FIVE CABLE SHALL BE COVERED WITH POLYVINYL CHLORIDE WIRE PROTECTOR AND PASTED ON THE FLOOR WITH STICKER

2. EXCLUSIVE WORK

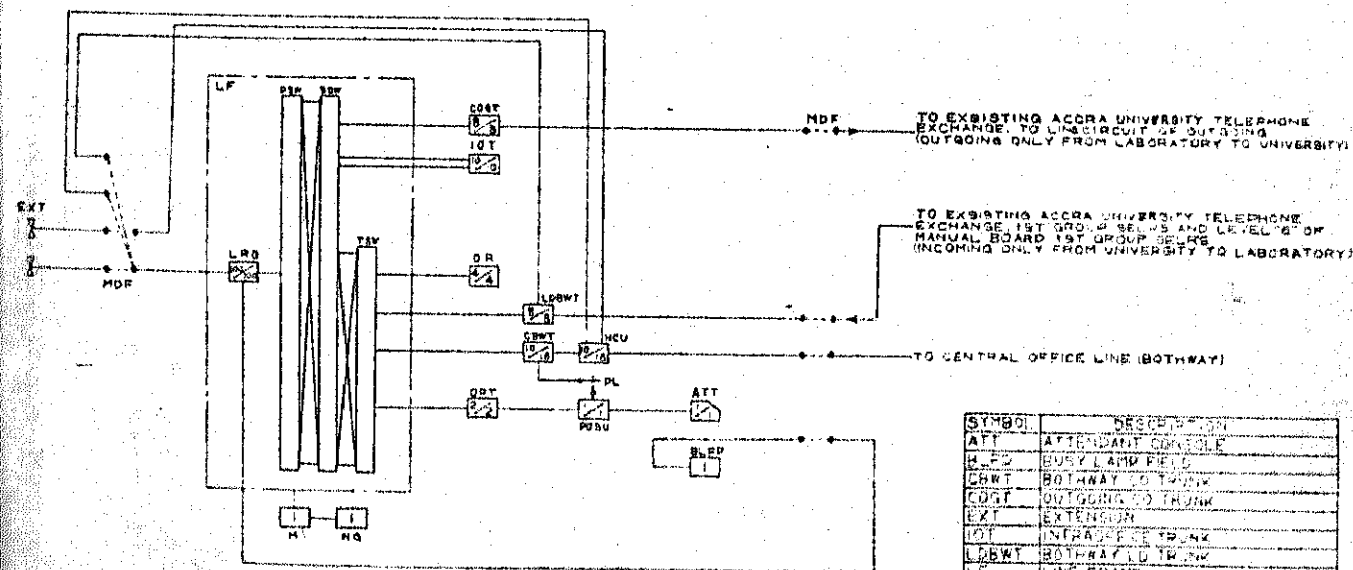
- PIPING, DIGGING FRENCHES HOLES IN THE WALLS ETC
- COMMUNICATION GROUND
 - LESS THAN 100 TELECOMMUNICATION GROUND.
 - LESS THAN 1000 SECURITY GROUND.
- LIGHTING APPARATUS.
- CABLE RUNNING OF CENTRAL OFFICE LINE.
- CABLE RUNNING OF TIE LINE CCP-P 0.5M/M X 2 CORE X 2 PAIR CABLE.
- COMMERCIAL POWER SUPPLY.
- ANY MODIFICATION OF EXISTING ACCRA UNIVERSITY TELEPHONE EXCHANGE
 - A CONNECTING CABLE TO LINE CIRCUIT OF EXISTING TELEPHONE EXCHANGE.
 - NEW LEVEL ASSIGNMENT FOR TIE LINE.



FLOOR LAYOUT OF PABX 1:50



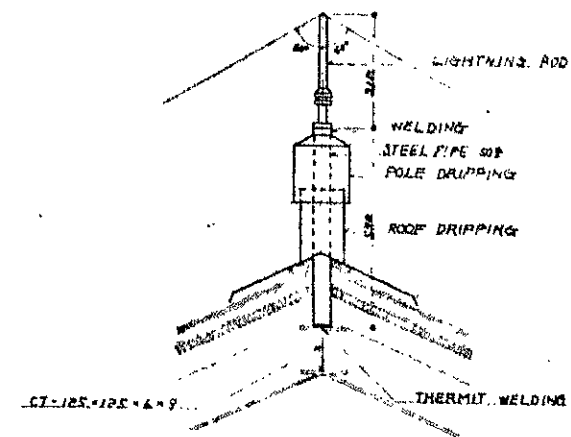
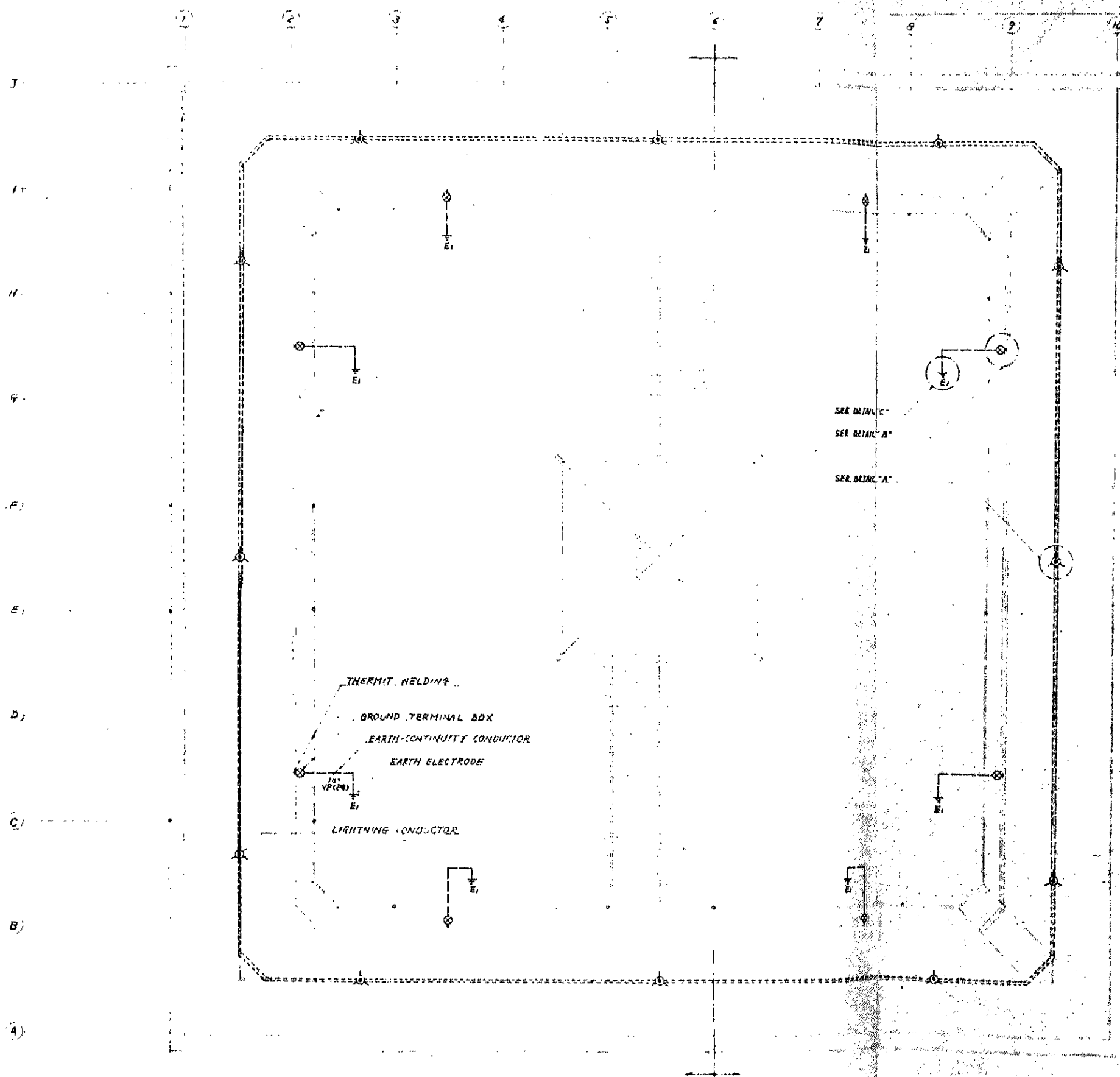
ATTENDANT CONSOLE



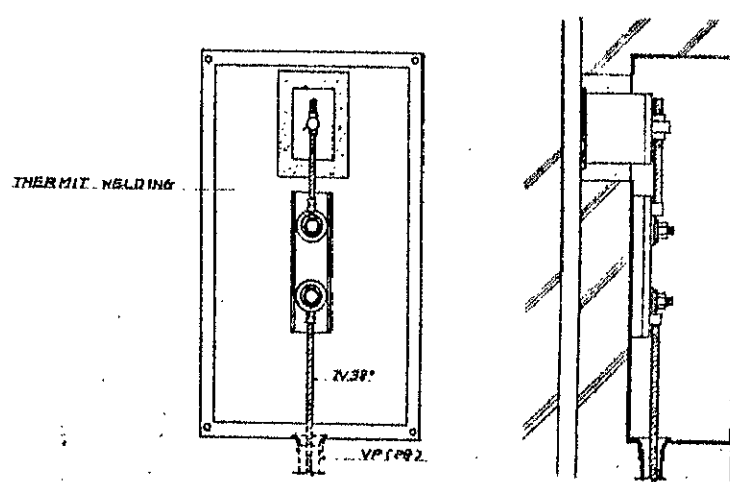
TRUNKING DIAGRAM

SYMBOL	DESCRIPTION
ATT	ATTENDANT CONSOLE
B.L.F.D.	BUSY LAMP FIELD
CBMT	BOTHWAY TO TRUNK
CBWT	OUTGOING TO TRUNK
CDRT	INTRACITY TRUNK
EXT	EXTENSION
INT	INTRACITY TRUNK
LBWT	BOTHWAY TO TRUNK
LF	LINE FRAME
LRG	LINE RELAY GROUP
M	MARKER
MDF	MAIN DISTRIBUTION FRAME
NCU	NIGHT CONNECTION UNIT
NG	NUMBER GROUP
ODT	OPERATOR TRUNK
OR	DISCRIMINATING REGISTER
PL	POSITION LINK
POSU	POSITION UNIT
PSW	POSITION SWITCH
SSW	SECONDARY SWITCH
TSS	TERTIARY SWITCH

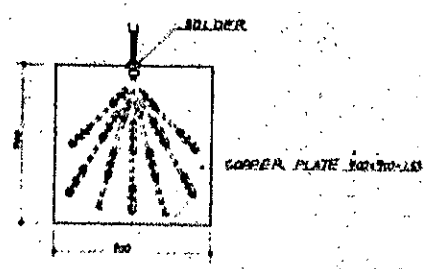
EXPLANATION OF SYMBOL



DETAIL "A" 5:1/10



DETAIL "B"



DETAIL "C"

