

LEADING-IN
① Voltage and leading-in wire
• Low tension • High tension • Superhigh tension • Aerial
• Underground • Aerial and underground
② Leading-in wire
• Direct leading-in from a pole supplied by the power company
• Furnish and install a private leading-in pole
③ Pole and switches
• Furnish and install on the power company pole
• Furnish and install on the private pole
• Furnish and install by the power company
• Furnish and install in the said works
• With the breaker function
• Without the breaker function
• City power supplied by the power company
• City power supplied by the said installation works

ELECTRICAL SYSTEM
① Features
• 50Hz • 60Hz
② Extra-high tension
• Three-phase 3-wire AC • 66kV • 33kV • 22kV • 11kV
③ High tension
• Three-phase 3-wire AC • 6.6kV • 3.3kV
④ High-tension motor
• Three-phase 3-wire AC • 6.6kV • 3.3kV
⑤ Lighting and power main line
• Three-phase 3-wire AC • 415/240V • 100/175V
⑥ Power main line
• Three-phase 3-wire AC • 415V • 200V
⑦ Power circuit
• Three-phase 3-wire AC • 415V • 200V
⑧ Lighting main line
• Three-phase 4-wire AC • 415/240V
• Three-phase 4-wire AC • 100/175V
• Single-phase 3-wire AC • 100/100V
⑨ Lighting branch line
• Single-phase 2-wire AC • 100V • 200V • 240V

POWER DISTRIBUTION SYSTEM
① General
This paragraph shall be applied to the ordinary high tension distribution system but not to the extra-high tension distribution system unless otherwise specified.
Attention must be paid to the said system in respect to cooling and ventilation. Particularly for the open-air or cubicle distribution equipment at the outdoor, such equipment shall be installed with special attention and countermeasures taken against immersion of rain water, damage from rats, invasion of small animals as well as for ventilation.
Distribution panel board transformer and condenser shall be firmly installed into the foundation with the consideration of vibration.
② Type of the power distribution equipment
• Indoor open-type • Indoor cubicle type
• Outdoor open-type • Outdoor cubicle type
③ Incoming power
• One-line incoming system • Loop incoming system
• Main and spare lines system (with interlocking)
④ Circuit breaker
Incoming circuit breaker or line circuit breaker
• Oil-immersed • Liticin-filled • • •
• Magnetic • Vacuum
• Electromagnetic operation • Manual operation
⑤ Transformer
• Oil-immersed (Mineral oil) • Dry-type (R-type)
• Indoor-type • Outdoor-type • Self-cooling type
• Non-self-cooling type
⑥ Phase protective conductor
• Recharge coil
⑦ Distribution panel
• Type, material and finish • Self-supporting open type
• Closed front panel with polished steel plate door
• 2.3 t (exclude door)
• Melamine based finish with designated color
⑧ Accessories
Moving-iron electrodynamic-type
Flush mounted type • Angle type
⑨ Instrument transformer
Ratio suited type for high and low tension circuits

GENERATOR
① Features
• Attachments and accessories:
• Fuel tank 1.5 litre with gauge
• Float switch, Platform
• Cooling water pressure-reducing tank 1 litre with gauge
• Cranking motor unit
• Ceiling-suspended muffler
• Automation parts and protective device
• Fin-ble pipes
• Disassembling tool and spare parts (standard parts)
• Transportation and installation works
• Exhaust pipe installation
• Fuel pipe installation
• Electrical wiring
• Adjustment and test operation
• Air duct
② Type of generator
• Floor type • Movable type
③ Load
• Safety light • Safety power
• Illumination complying the Building Standards Act
• Smoke evacuation complying the Building Standards Act
• The Fire Services Act
④ Diesel engine
• Start system • Electric • Pneumatic
• Automatic start
• Automatic stop
• Engine horse-power
• Speed
⑤ Fuel
• Diesel oil • A heavy oil
• Cooling system
• Air-cooling
• Water-cooling (deals method)
• Water-cooling (radiator)
• Water-cooling (circulation)
⑥ AC generator
• Rated output
• Three-phase
• Output voltage
• Pole 1200 rpm
• Excitation
• Power factor
⑦ Generator control panel/automatic start panel
• Type
• Material and finish
• Steel plate melamine-based finish with designated color for front panel and door.

MAIN LINE WIRING AND POWER CONTROL BOARD
① Wiring
• Wire and cable
• Wire color-coding
② Power control board
• Type
• Material and finish

ILLUMINATION WIRING
① Wiring
• Wire and cable
② Distribution panel
• Type
• Structure
• Material and finish
③ Switching and transportation
• Switch
• Receptacle
• Plug

INSTALLATION
① Installation
• One set for safety light and emergency light
• One set for breaker operation
• One set for illumination and breakers commonly
② Battery
• Lead battery (Sealed) • Alkaline battery
③ Rectifier
• Selenium rectifier
• Floating recharge rectifier with automatic voltage
• The load voltage compensator and excessive discharge protection device must be provided together.
④ Operation
Fully automatic during both service interruption and recharging
⑤ Rectifier panel
• Battery built-in type • Battery separate type
• Unit enclosed type • Distribution panel enclosed type
• Material and finish • Steel plate melamine-based finish with designated color for front panel and door.
• 2.3 t • 3.2 t (exclude door)

TELEPHONE CONDUIT INSTALLATION
① General
This article is concerned with the installation of telephone conduits and grounding including installing conduits, outlets and terminal board. But the installation and wiring of equipment are outside the scope of this article. Insertion of the call wires shall be made in the said installation works.
② Conduit
• Conduit
• Outlet
③ Terminal board
• It shall be of steel plate and made complying to the specifications of the lamp distribution board. The wood plate for fitting terminals shall be of 18 mm or thicker.
• Terminals • with terminals • without terminals
④ Grounding
Grounding shall be provided completely for the exchange equipment and protective device. Grounding shall be performed within the scope of the said installation work irrespectively of the entrance of the exchange equipment installation works.

TELEPHONE EXCHANGE EQUIPMENT
① General
All the private branch-exchange equipment which comply with the technical standards of the private branch-exchange of Japan Telegraph and Telephone Public Corporation shall be furnished and installed by the contractor, who shall also execute all the necessary documentation and deliver the facilities after tests and adjustment followed by the test under the attendance of Japan Telegraph and Telephone Public Corporation.
② Exchange equipment
• Type
• Appearance
• Accommodation
③ Telephone set
• Model
• Color set
④ Telephone panel
• Station
• Direct outward dialing
• Stand-off position
• Call transfer attachment
• Ring
• Ring lamp
• Ring lamp
• Ring lamp
• Ring lamp
• Ring lamp
• Ring lamp

LIGHTING EQUIPMENT
① General
The drawing of each equipment must be made from the views written in the original drawing and be recognized by the engineer before manufacturing and installing.
If articles on the market are similar to those shown in the drawing, they can be used upon recognition of the engineer. However, finish color shall be ordered by the engineer.
Slight modification of the design of equipment shall be made within the range of the amount of contract.
Heavy equipment shall be suspended with inserts and suspension bolts from the slab.
② Structure, material and finish
The metallic parts of equipment shall be thick enough for good appearance and structure.
All fluorescent lamps shall be provided with the protective glass and the sockets shall be generally of turret type.
The appliance designation as of waterproof type shall use waterproof ballasts and sockets.
The heat dissipation effect must be taken into account for the appliances and heat-resistant cords shall be used inside the fluorescent lamp appliances.
The effect of illumination must be taken into account for the covers and gloves of the appliances and they shall not distort or drop due to heat.

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EXCHANGE EQUIPMENT INSTALLATION AND WIRING
① General
All the installation and wiring works of the exchange equipment and related devices shall be made so that there should be no trouble for automatic exchange operation. Cable and jumpers conforming to the specifications of Japan Telegraph and Telephone Public Corporation shall be neatly arranged and wired in the office.
② Telephone set installation and wiring
Cable shall be used between terminal boards and substitution wires shall be used between terminal boards and telephone sets. Wires exposed on the floor shall be protected with the wire protectors.

Public-address system
The public-address system specified in the table below shall be furnished and installed.
The configuration of each equipment shall comply with the specifications of the table.

Public-address circuit	Y	W	T	U	V	W
Amplifier	Y	W	T	U	V	W
Input circuit	M	K	A	M	K	A
Output circuit	K	A	T	M	K	A
Radio	AM	FM	AM	FM	AM	FM
Emergency broadcast	A	A	A	A	A	A
Type, material and finish	Y	B	B	C	Y	B
Wire	N	C	A	C	N	C
Microphone	D	B	C	D	B	C
Related equipment	H	T	B	H	T	B
Speaker	A	B	C	A	B	C
Others	A	F	B	A	F	B

Public-address system
① General
The public-address system specified in the table below shall be furnished and installed.
The configuration of each equipment shall comply with the specifications of the table.
② Amplifier
• Type
• Input circuit
• Output circuit
• Radio
• Emergency broadcast
• Type, material and finish
• Wire
• Microphone
• Related equipment
• Speaker
• Others

TELEPHONE EXCHANGE EQUIPMENT
① General
All the private branch-exchange equipment which comply with the technical standards of the private branch-exchange of Japan Telegraph and Telephone Public Corporation shall be furnished and installed by the contractor, who shall also execute all the necessary documentation and deliver the facilities after tests and adjustment followed by the test under the attendance of Japan Telegraph and Telephone Public Corporation.
② Exchange equipment
• Type
• Appearance
• Accommodation
③ Telephone set
• Model
• Color set
④ Telephone panel
• Station
• Direct outward dialing
• Stand-off position
• Call transfer attachment
• Ring
• Ring lamp
• Ring lamp
• Ring lamp
• Ring lamp
• Ring lamp

MASTER CLOCK
• Crystal clock
• Power supply
• Rectifier
• Automatic switching to dry cells during service interruption
• Battery
• Automatic switching to battery during service interruption
• Floating recharging by constant voltage charging using recharger with automatic voltage regulator.
• Type, material and finish
• Self-supporting locker-like floor type
• Wall type • Desk type
• Steel plate-made melamine-based with designated color
• 1.2 t • 1.6 t • 2.3 t
② Slave clock
• Wall type • Tent-flush mount type • Side bracket type
• Suspension type • with speaker • with display
• with lower lighting
③ Serial device
• Digital display clock • with Temperature display
• with Brightness and voltage controls • Time signal shine
• JJJ time calibration unit • Automatic calibration
• Manual calibration
• Timer 1, 3 circuit

DISPLAY SYSTEM
① Display
• In/out display
• In-use displays for reception and meeting rooms
• Parlor display
• Call display
② Display
• Type
• Power source
• Power supply
• Mount
③ Control unit
• Operation
• Type
• Material and finish
• Size
• All equipment shall be provided with wire connecting terminals.

INTERPHONE FACILITIES
① Interphone circuit
• Communication between buildings
• Safety
• Pool supply
• Night call
• Four phone
• Other
② Type
• Alternate type
• Master slave type
• Simultaneous type
• Press-to-talk type
③ Mount and finish
• Telephone set type
• Wall mount type
• Flush-mount wall
• Water-proof type
④ Mounting
• Built-in type
• Separate power supply

COMMUNITY RECEIVING SYSTEM

1. **General**
All the equipment shall be able to be commonly used for DWF and HF color broadcast reception.
The intensity of field at each TV set shall be 70 dB or more.
When installing, the intensity of field shall be measured at the site where the antenna is to be installed. The level diagram of each circuit shall be also submitted.

2. **Type of community**
a Building a Building-shade a Urban area a Vome
a All the community receiving equipment shall be of KJ type.

3. **Antenna**
a VHF a VHF a VHF a VHF
a Stainless steel a Light alloy a Anti-salt damage type

4. **Related equipment**
a Converter a Mixer a Booster a Amplifier
a Branch unit a Distributor a Series unit

5. **Panel**
a Type, material, finish as well as production and installation shall conform to the specifications of the law distribution board.
a The equipment shall be accommodated in the terminal board of telephone in common.

6. **Wiring**
a It shall be as specified in Main line wiring and power control board.

OUTDOOR ELECTRICAL INSTALLATIONS

1. **Outdoor lamps**
a Tube a Trough a Juse concrete pipe
a Flexible resin pipe
a Polyethylene lining steel pipe

2. **Outdoor main line**
a On-site construction
a Use of products on the market
a Durable waterproof cover
a With water covering plug

LEGEND

POWER DISTRIBUTION FACILITIES

MOP Metering outfit
OS Disconnecting switch
LA Lightning arrester
CB High tension circuit breaker
OS Oil-immersed switch
PF Power fuse
ZCT Zero-phase current transformer
PT Transformer for instruments
CT Current transformer for instruments
OF Open fuse
EF Enclosed fuse
LBS Load break switch
PC Primary circuit
KS Knife switch
PMB M-vised line is at 1000V
TR Transformer
SC Static condenser with discharge coil
CH Cable head
EG Engine Generator
V Voltmeter Voltmeter changeover switch
A Ammeter Ammeter changeover switch
PFM Power-factor meter Frequency meter
M Wattmeter Watt-hour meter
HGR High tension ground relay
OR Overcurrent relay

AUTOMATIC FIRE ALARM FACILITIES

1. **General**
All the automatic fire alarm facilities which comprise devices approved by the government shall be furnished and installed according to the Fire Services Act, the enforcement ordinance and detailed anti-accident regulations of the act as well as the fire prevention regulations.

2. **Form**
a Smoke a Differential spot a Constant temperature spot
a Compenation spot a Air tube type

3. **Survival panel**
a Panel a Self-supporting type a Wall type
a Sub-panel a Self-supporting type a Wall type
a Activation of carbon dioxide gas extinguisher shall be displayed in the window of the panel.
a The pump for fire hydrants shall be started interlocked with the transmitter. The activation lamp shall be of flicker type.
a Activation of sprinkler system shall be displayed in the window of the panel.
a In relation to the Fire Services Act and emergency broadcast facilities, a signal transfer circuit from the receiving panel to the public-address facilities shall be provided.

4. **Transmitter, bell and lamp**
a Single integrated panel a Bell-in hydrant box
a Single mount

PIPING AND WIRING

Power incoming point or service entrance
Wiring in conduit, concealed wall or ceiling
Wiring in conduit, concealed underfloor
Open piping and wiring
Underground wiring
Spare piping
Underfloor duct
Riser, linear and drop

PANELS AND BOARDS

Lamp distribution board
Power control panel
Lamp and power distribution board
Alarm panel

LIGHTNING AIR TERMINATION SYSTEM

1. **General**
This installation shall conform to JIS A4201 and the specifications given below.
If the specified grounding resistance cannot be obtained with a copper mesh plate, an auxiliary grounding shall be furnished and installed to attain the specified resistance. The records of grounding resistance measurement shall be submitted.

2. **Type**
a Needle type a Roof-top conductor type a Cage type
a Overhead earth line type
a Independent lightning conductor type

3. **Equipment and Materials**
a Needle a Copper bar
a Needle support a Green tube a Steel pipe
a Lightning conductor
a Ground electrode a Copper plate 1.6 t x 900 x 900 or larger
a Ground resistance Overall = 10 ohms or below
a Grounding indication Bronze-made buried ground plate indication shall be provided.

OUTDOOR FACILITIES

Hand-hole
Wood pole
Concrete pole

QUIET

Flush mounted switch socket outlet SA 1007 with plug
Ditto water proof
Ditto generator circuit
Flush mounted ceiling switch socket outlet SA 1007 with plug

EQUIPMENT

Matt-hour meter in box or with hood
Switch in iron box
Ammeter-switch in iron box
Motor
Electric heater
Push button of electromagnet switch suffixed with L for pilot lamp provided
Hydrant activation push-button with pilot lamp
Floatless switch Electrode
Remote control transformer
Bell transformer
Ventilation fan

OUTLET

Flush mounted switch socket outlet SA 1007 with plug
Ditto water proof
Ditto generator circuit
Flush mounted ceiling switch socket outlet SA 1007 with plug

DISPLAY

Display (suffix indicates number of windows)
Display with control switch
Wall-mount push-button
Desk push-button
Chime
Buzzer
Bell
Push-button

INTERPHONE

Master interphone
Slave interphone

CIRCUIT SYMBOL

Single-phase 100V ordinary circuit
Single-phase 100V generator circuit
Single-phase 240V ordinary circuit
Single-phase 240V generator circuit
Three phase 415V ordinary circuit
Three phase 415V generator circuit

SWITCHES

5A One gang one way switch
5A One gang two way switch
5A One gang one way switch water proof
5A One gang one way switch with pilot lamp
Remote control switch (with pilot lamp if L is suffixed)
Photo switch
Compact dimmer control

TV COMMUNITY RECEIVING EQUIPMENT

Antenna
Converter
Mixer
Amplifier
Branch unit
Distributor
TV outlet

LIGHTING EQUIPMENT

Ordinary circuit fluorescent lamp on ceiling
Ordinary circuit vertically on wall
Ordinary circuit horizontally on wall
Ordinary circuit of multiple lamp type
Generator circuit with fluorescent lamp
Generator circuit with incandescent lamp
Fluorescent lamp with emergency power
Incandescent lamp with emergency power
Guide lamp for emergency exit two-sided
Guide lamp for access one-sided, two-sided
Cord pendant
Chandelier
Ceiling light
Chain pendant
Down light
Pipe pendant
Receptacle
Spotlight
Brooker light
Floodlight
Outdoor lamp or garden lamp
Grommet
Safety lamp

TELEPHONE

Wall outlet
Floor outlet with rotation stud
Extension telephone set
Emergency telephone set
Terminal board
Main distribution frame
Underfloor duct
Junction box

AUTOMATIC FIRE ALARM SYSTEM

Differential spot-type sensor
Constant temperature
Compenation
Smoke sensor
Terminating resistor
Receiver
Display panel
Integrated panel
Air pipe or live part
Differential distribution-type detector
Circuit tester
Tester of spot-type sensor
Relay box
Boundary line of warning
Number of warning
Bell
Ditto
Ditto

PUBLIC ADDRESS EQUIPMENT

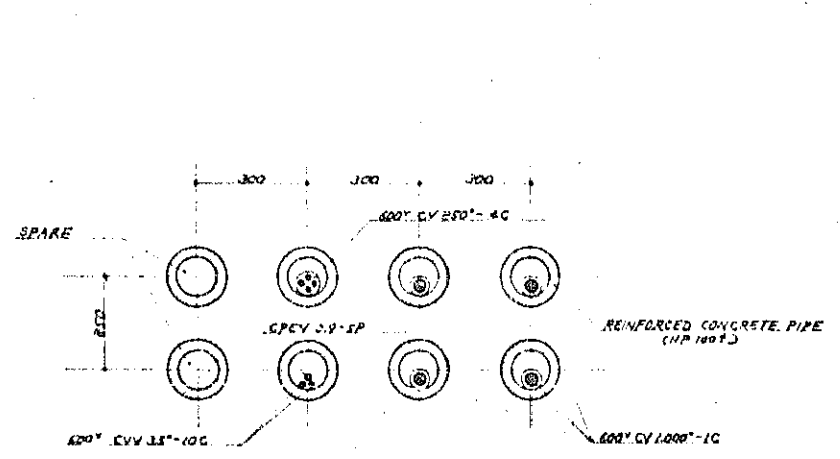
Ceiling speaker
Wall speaker
Horn speaker
Attenuator
Wall-mount microphone jack
Floor flush mount microphone jack
Speaker jack
Amplifier

CLOCK

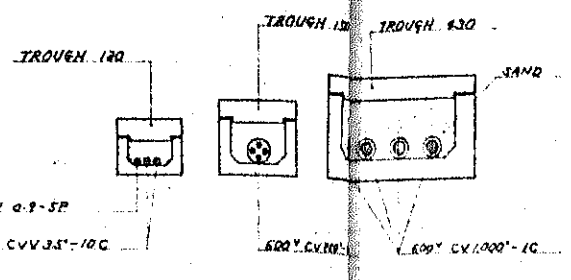
Master clock
Slave clock

OUTDOOR FACILITIES

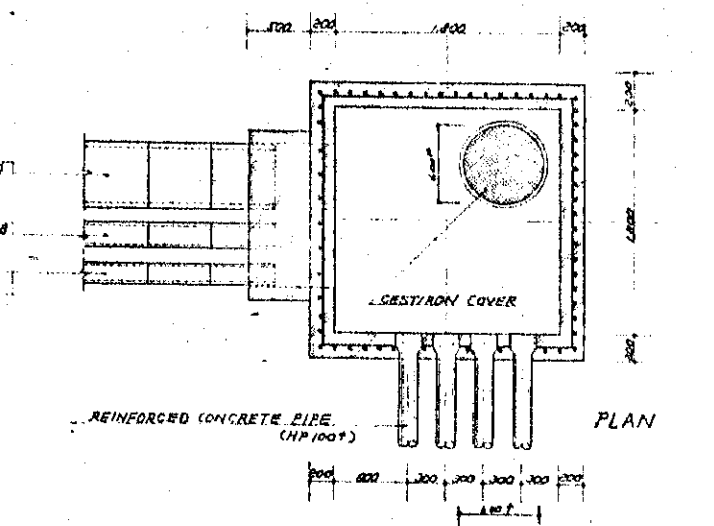
Hand-hole
Wood pole
Concrete pole



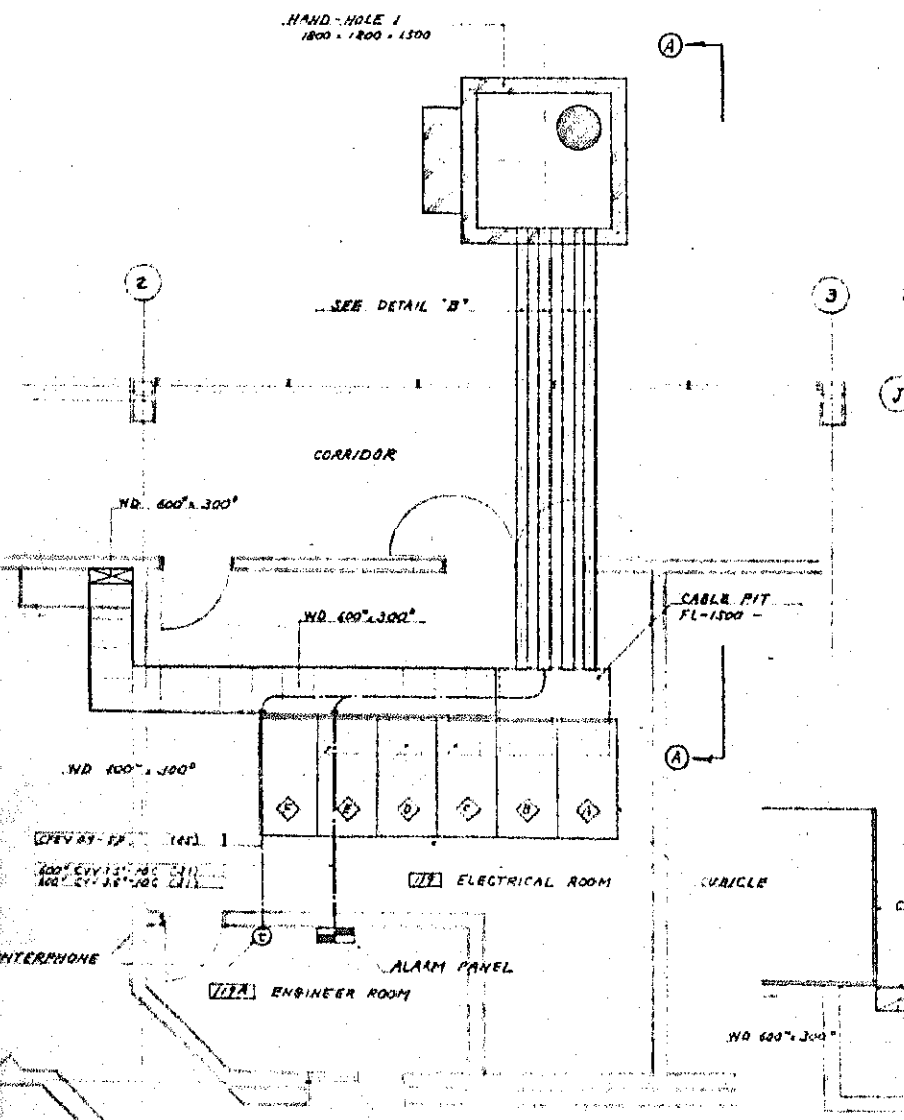
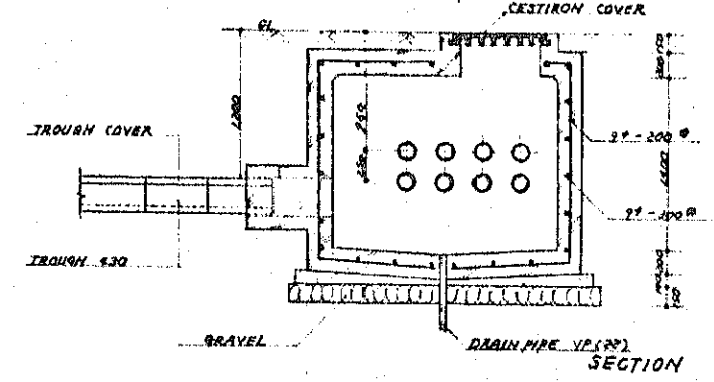
DETAIL B s=1/10



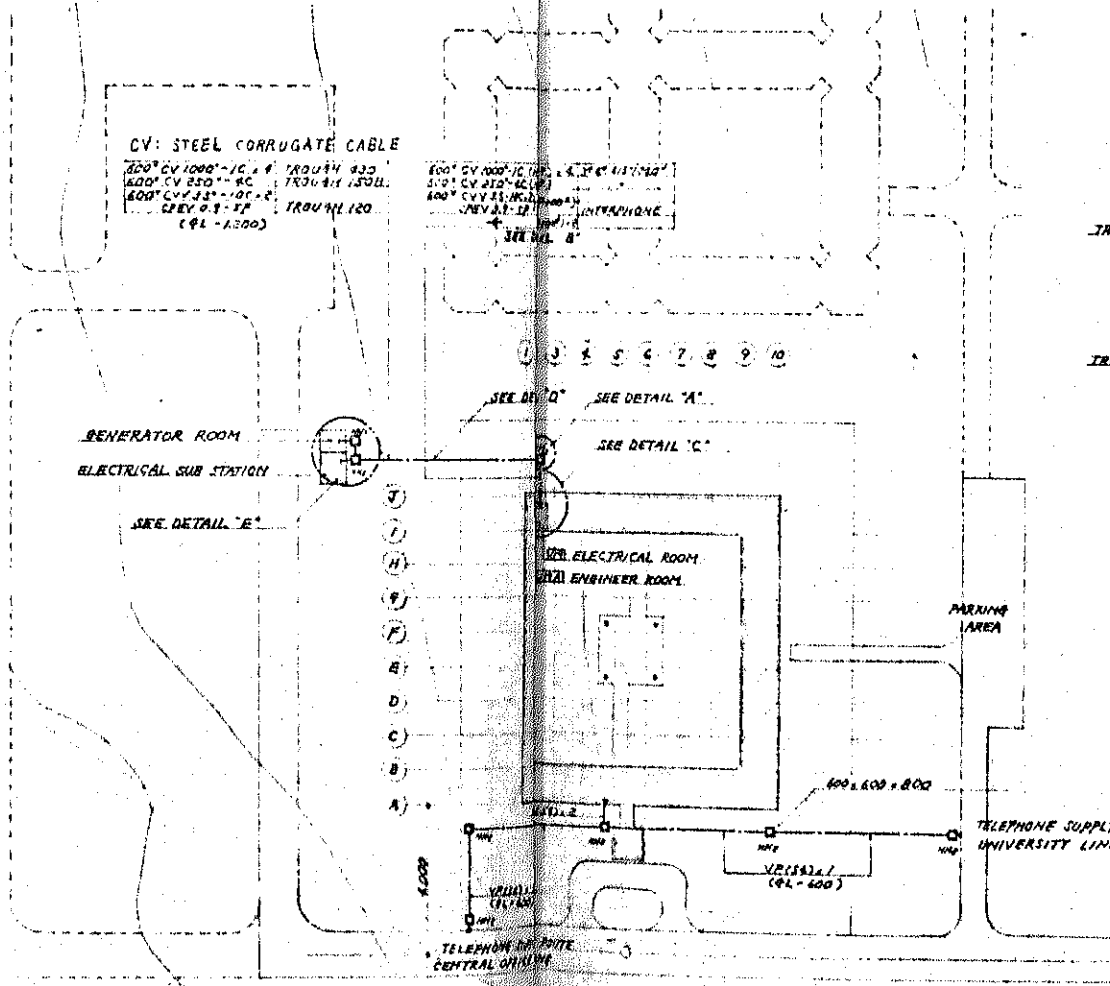
DETAIL C s=1/10



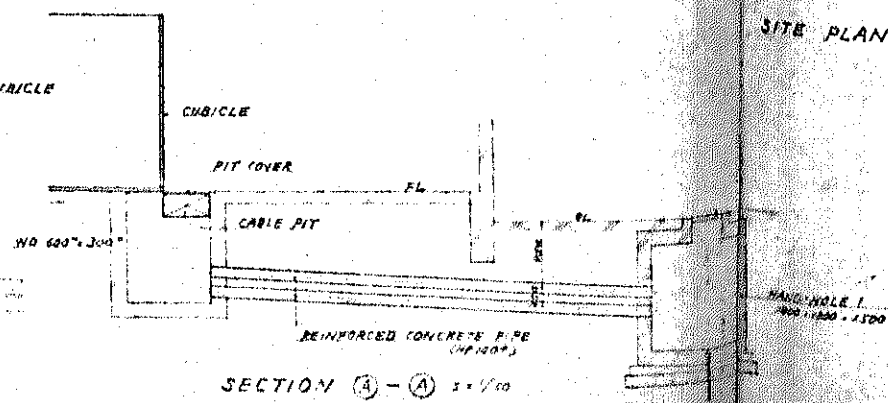
DETAIL A s=1/30



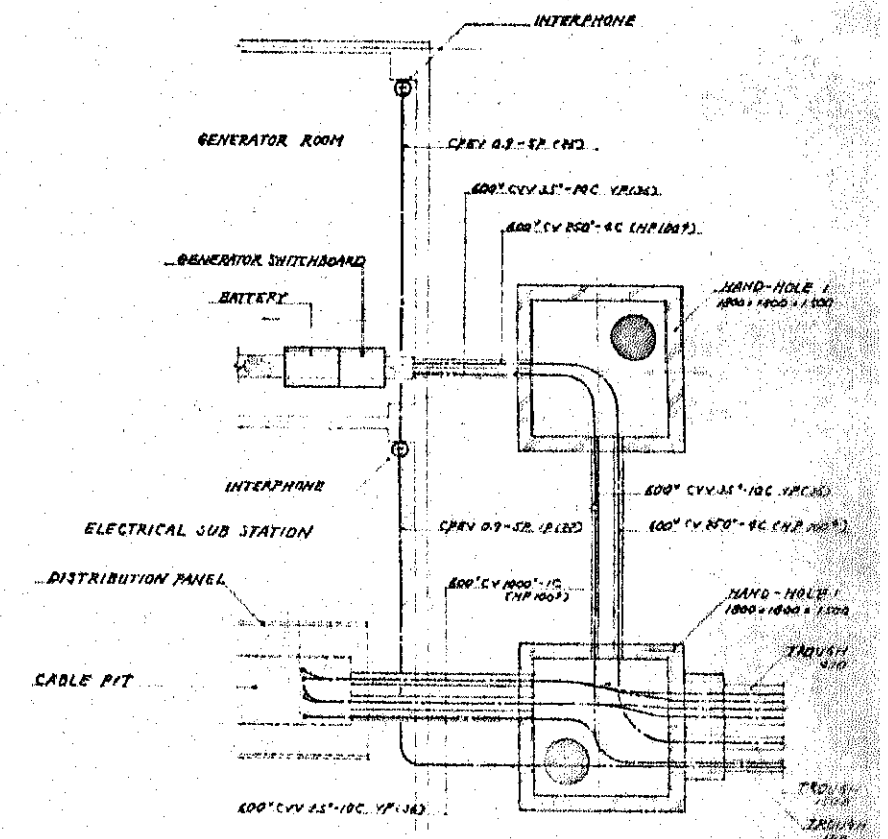
DETAIL C s=1/10



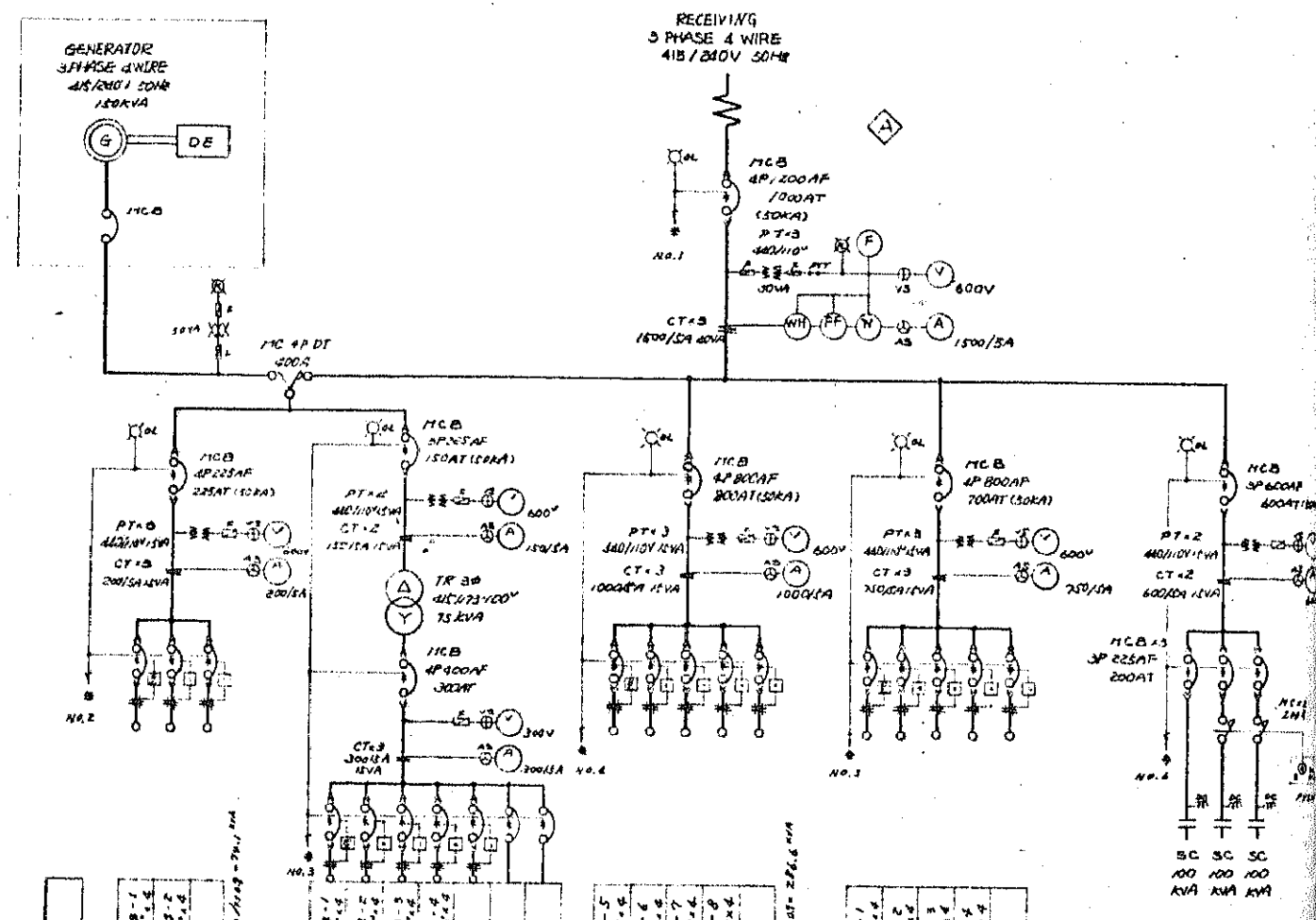
SITE PLAN s=1/1000



SECTION A-A s=1/10



DETAIL E s=1/30

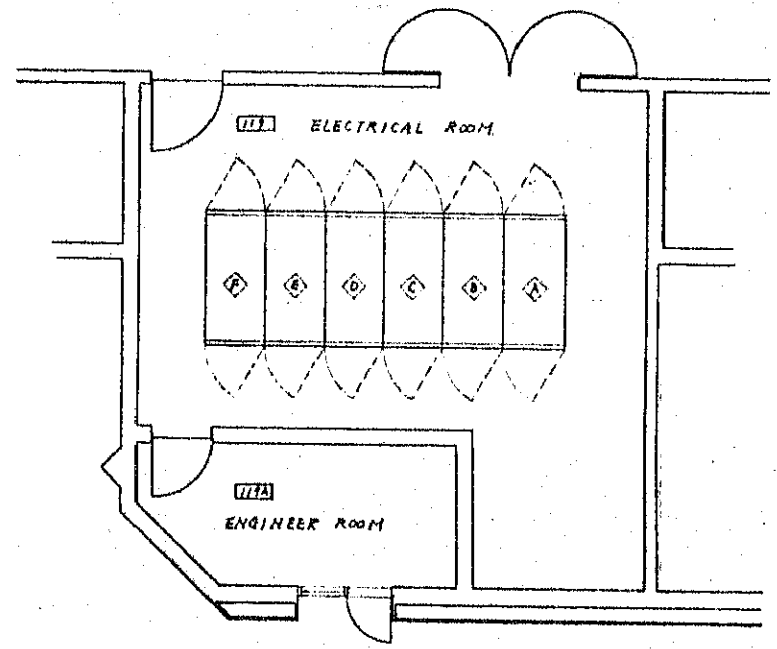


VOLTAGE	ELB or MCB	LOAD CAPACITY
3 PHASE 4 WIRE 415/240V FOR EMERGENCY POWER	ELB 4P 1000/1000AF	LEVEL I 24.7 MW
	ELB 4P 200/200AF	LEVEL II 27.9 MW
	ELB 4P 800/800AF	LEVEL III 41.7 MW
	ELB 4P 2000/2000AF	SPARE
TOTAL 83.8 MW - 4000/4000 - 24.1 MW		
3 PHASE 4 WIRE 415/240V FOR 100V EQUIPMENT	ELB 4P 1000/1000AF	LEVEL I 8.4 MW
	ELB 4P 200/200AF	LEVEL II 27.9 MW
	ELB 4P 800/800AF	LEVEL III 12.1 MW
	ELB 4P 2000/2000AF	SPARE
TOTAL 70.2 MW		
3 PHASE 4 WIRE 415/240V FOR POWER	ELB 4P 1000/1000AF	LEVEL I 78 MW
	ELB 4P 200/200AF	LEVEL II 79.5 MW
	ELB 4P 800/800AF	LEVEL III 58.5 MW
	ELB 4P 2000/2000AF	SPARE
TOTAL 316.5 MW - 4000/4000 - 28.6 MW		
3 PHASE 4 WIRE 415/240V FOR LABORATORY EQUIPMENT	ELB 4P 1000/1000AF	LEVEL I 81 MW
	ELB 4P 200/200AF	LEVEL II 87.7 MW
	ELB 4P 800/800AF	LEVEL III 67.3 MW
	ELB 4P 2000/2000AF	SPARE
TOTAL 316.5 MW - 4000/4000 - 28.6 MW		

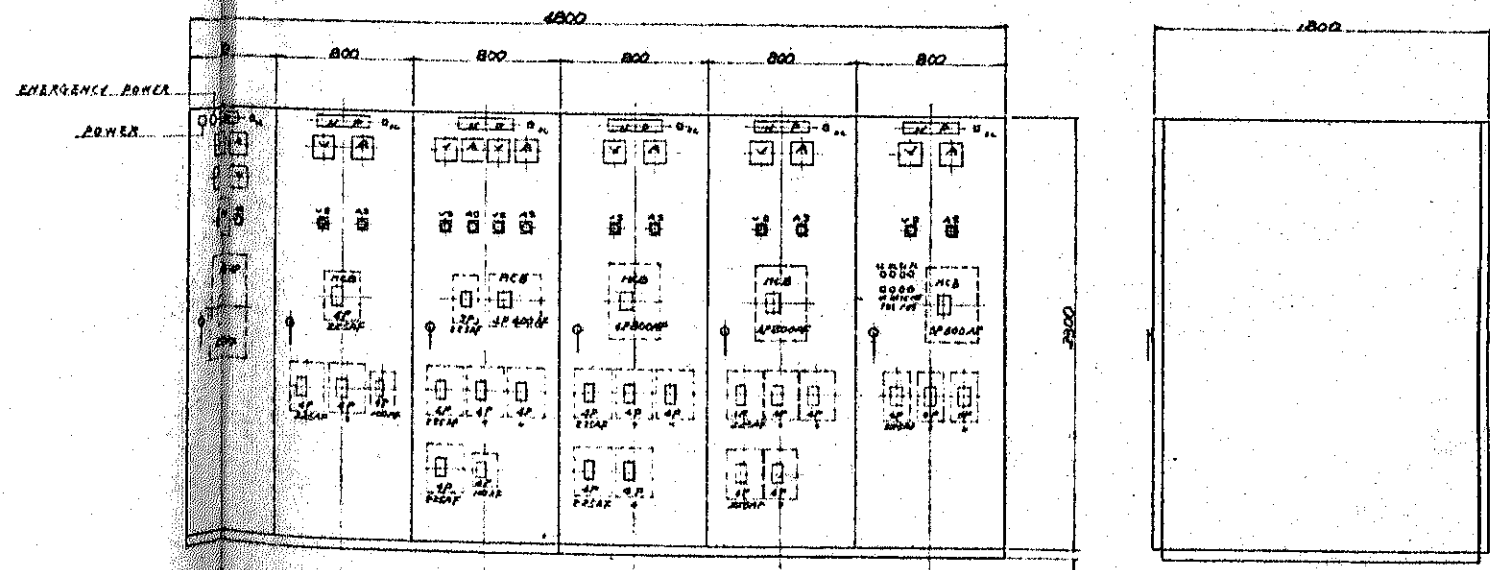
SKELTON DIAGRAM

LEGEND

M C B	MOLDED CASE CIRCUIT BREAKER
E L B	EARTH LEAKAGE BREAKER
M C	ELECTROMAGNETIC CONTACTOR
T R	TRANSFORMER (DRY TYPE)
S C	STATIC CONDENSER
P T	POTENTIAL TRANSFORMER
C T	CURRENT TRANSFORMER
V	VOLT METER
A	AMPERE METER
F	FREQUENCY METER
P F	POWER FACTOR METER
W	WATT METER
W H	WATT HOUR METER
V S	VOLTMETER TRANSFER SWITCH
A S	AMMETER TRANSFER SWITCH
D C	DISCHARGE COIL
E L	EARTH LEAKAGE RELAY

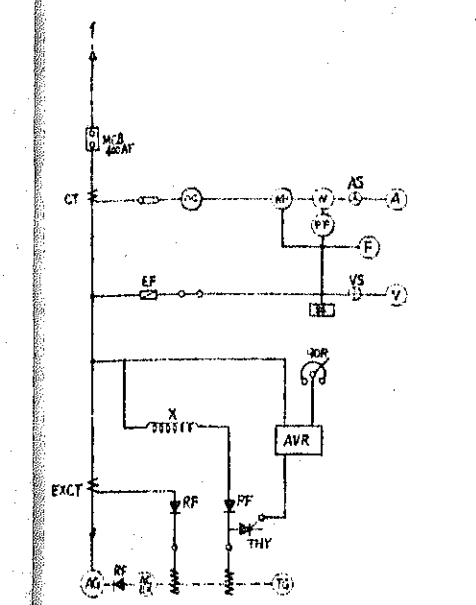
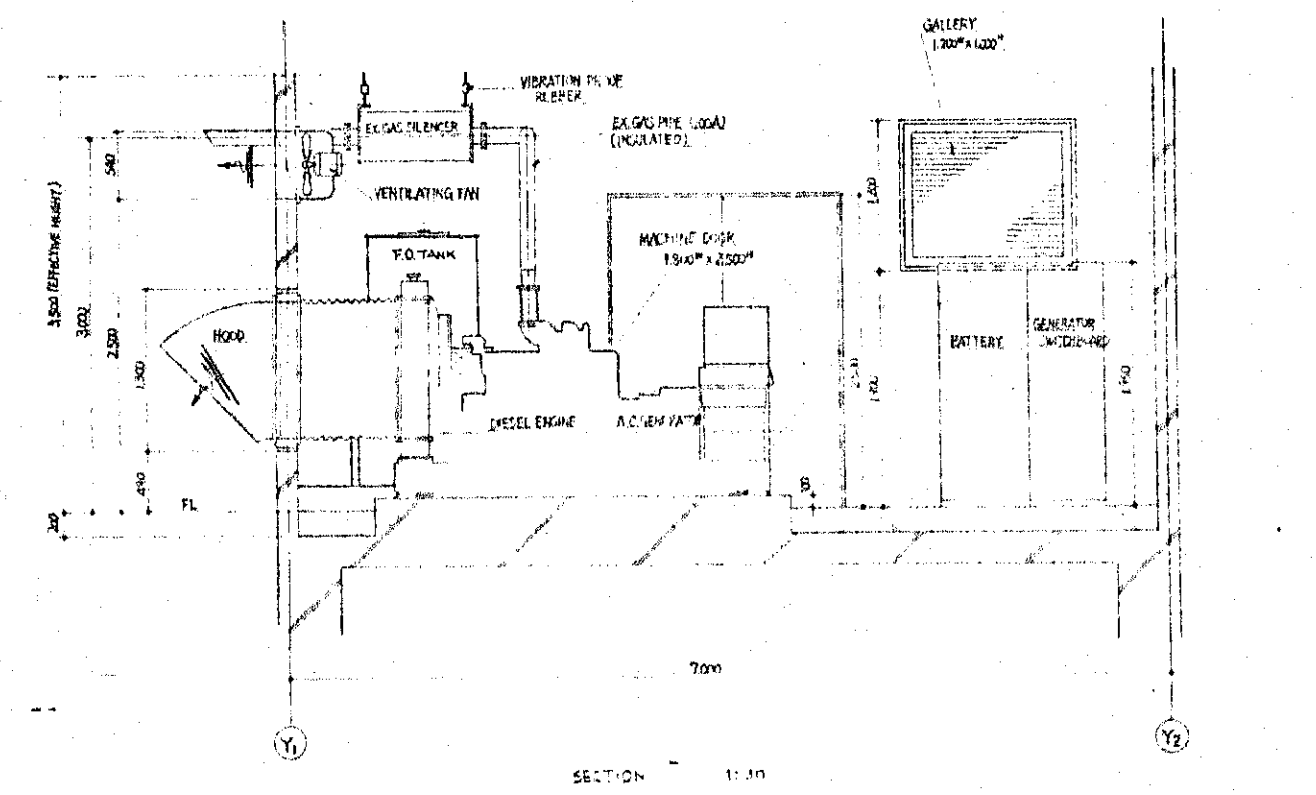
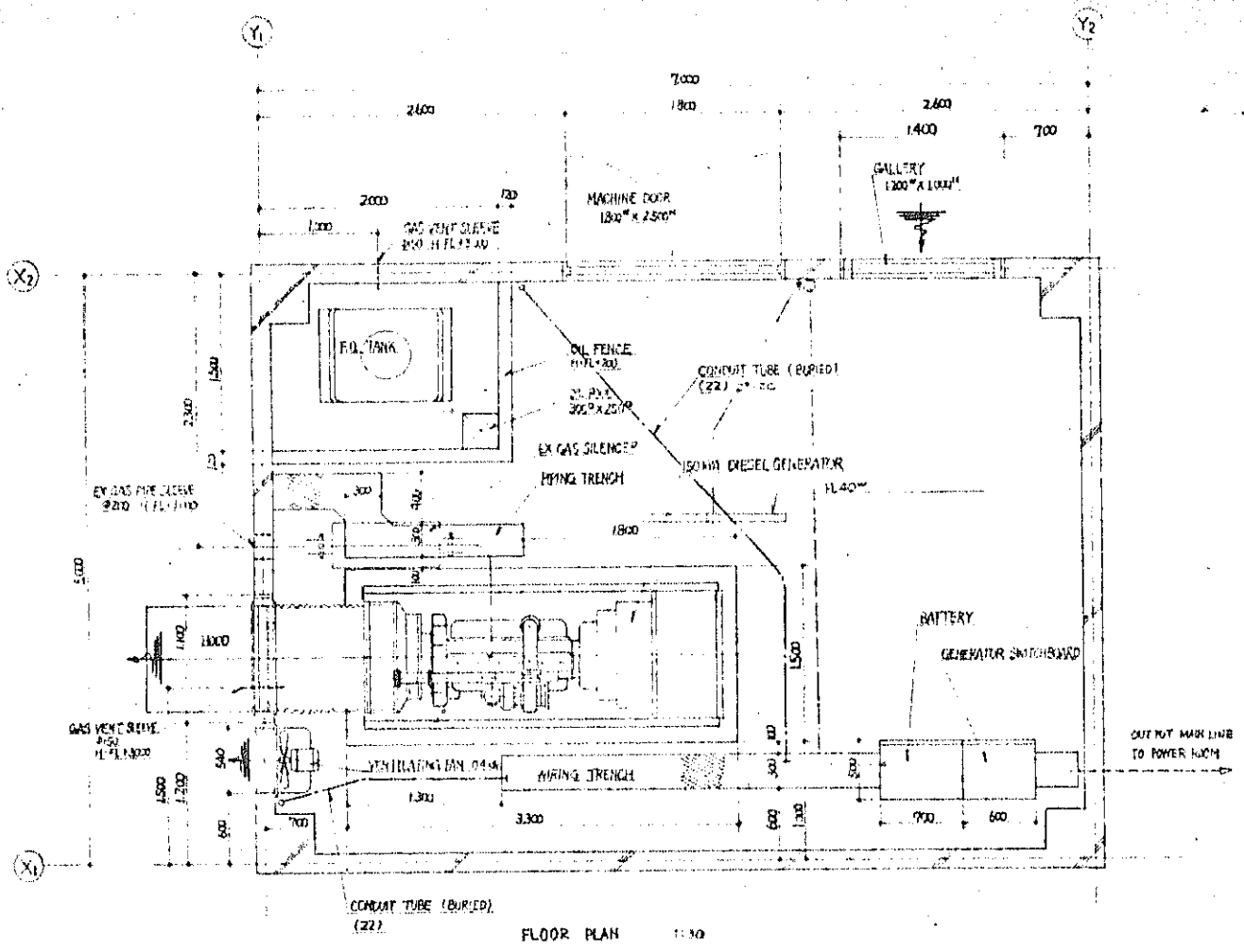


PLAN 5 = 1/50

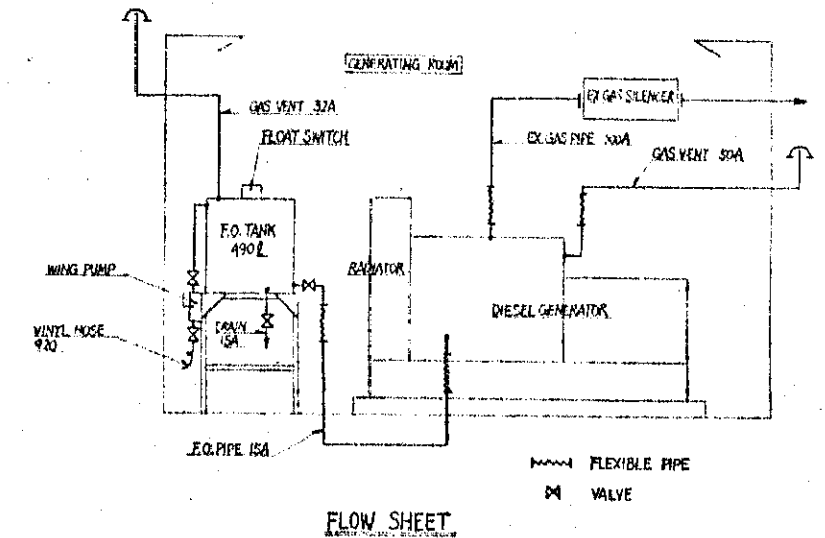


METAL ENCLOSED LOW-TENSION DISTRIBUTION PANEL 5 = 1/20

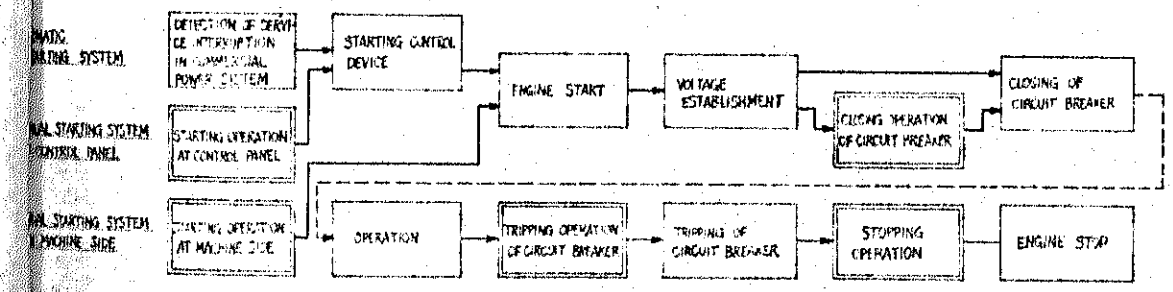
- NOTE 1. THE FOLLOWING FOUR ITEMS SHALL BE SUPPLIED BY THIS ELECTRIC WORK.
1. VOLT METER - (PORTABLE TYPE) 0-240V - 1EA
 2. AMMETER - (PLUS TYPE) 0-1000A - 1EA
 3. MEGGER - WITH AUTO CASE 100V - 1EA
 4. RUBBER MAT - 1000 x 500 x 100 - 1 SHEET



A	AMMETER	CHANGOVER SW	RF	RECTIFIER
X	A.C. CIRCUIT	TRIP	TG	TACHO GENERATOR
A.C. GENERATOR	THY	THYRISTOR		
OVER CURRENT RELAY	Y	YS	VOLTMETER	CHANGOVER SW
AUTOMATIC VOLTAGE REGULATOR	P.F.	P.F.	POWER FACTOR METER	
CURRENT TRANSFORMER	W	WT	WATTMETER	
ENCLOSED FUSE	WH	WH	WATT HOUR METER	
CURRENT TRANSFORMER ENCL.	X	XT	RELAY	ENCL.
FREQUENCY METER	24	24	VOLTAGE RELAY	
MOTOR DRIVE CIRCUIT BREAKER	20R	20R	VOLTAGE ADJUSTER	



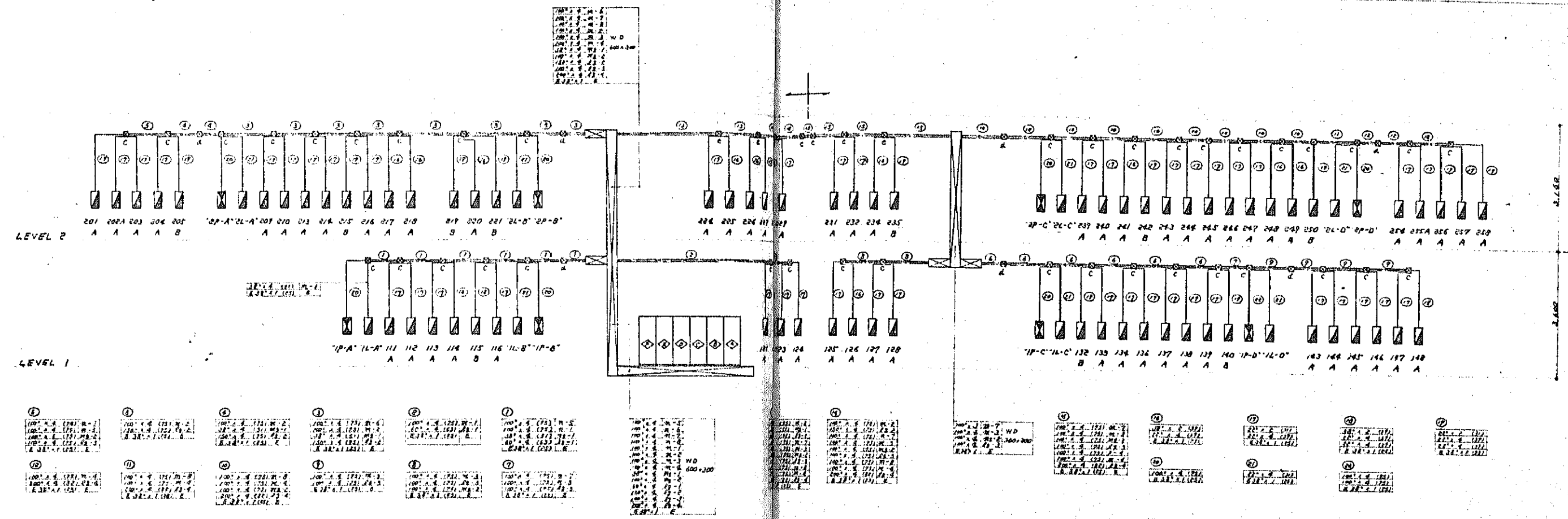
RATING	
DIESEL ENGINE	GENERATOR
TYPE: WATER-COOLED, 4-CYCLE SERIES	OUTPUT: OVER 1500VA (OVER 1200W)
OUTPUT: OVER 2000PS	NO. OF PHASE: 3P 4WIRE
REVOLUTION: 1500 RPM	VOLTAGE: 415 V / 240 V
FUEL: DIESEL OIL	POWER FACTOR: 80 %
START SYSTEM: ELECTRIC START	FREQUENCY: 50 HZ
TOTAL WEIGHT:	APPROX. 3500 kg



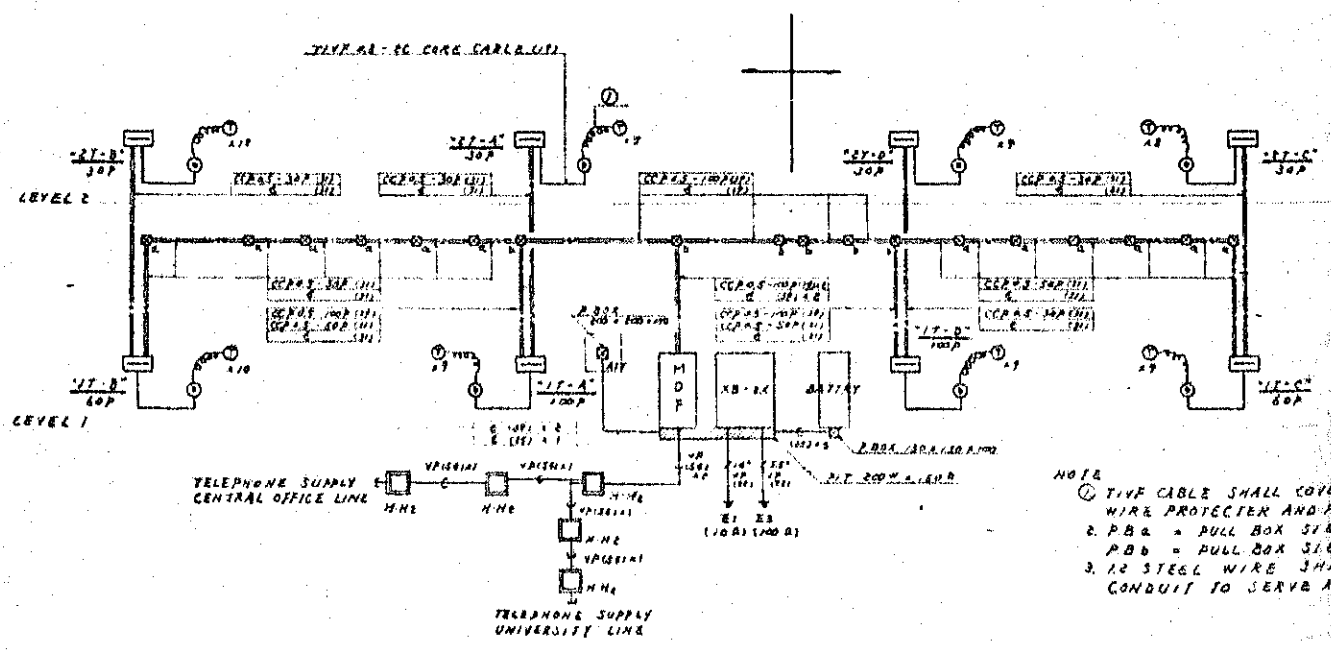
NO.	KIND OF FAULTS	DEVICE FUNCTION NUMBER	ENGINE STOP	HIGH TRIP	ALARM	FAULT INDICATION	ALARM BELL (200-240)
1	LOW OIL PRESSURE	101	○	○	○	○	○
2	LOW WATER	102	○	○	○	○	○
3	ABNORMALITY	103	○	○	○	○	○
4	IMPROPER STARTING	104	○	○	○	○	○
5	OVERCURRENT	105	○	○	○	○	○
6	LOW OIL LEVEL IN SERVICE TANK	106	○	○	○	○	○
7	EMERGENCY STOP	107	○	○	○	○	○

STANDARD PROTECTIVE FUNCTIONS

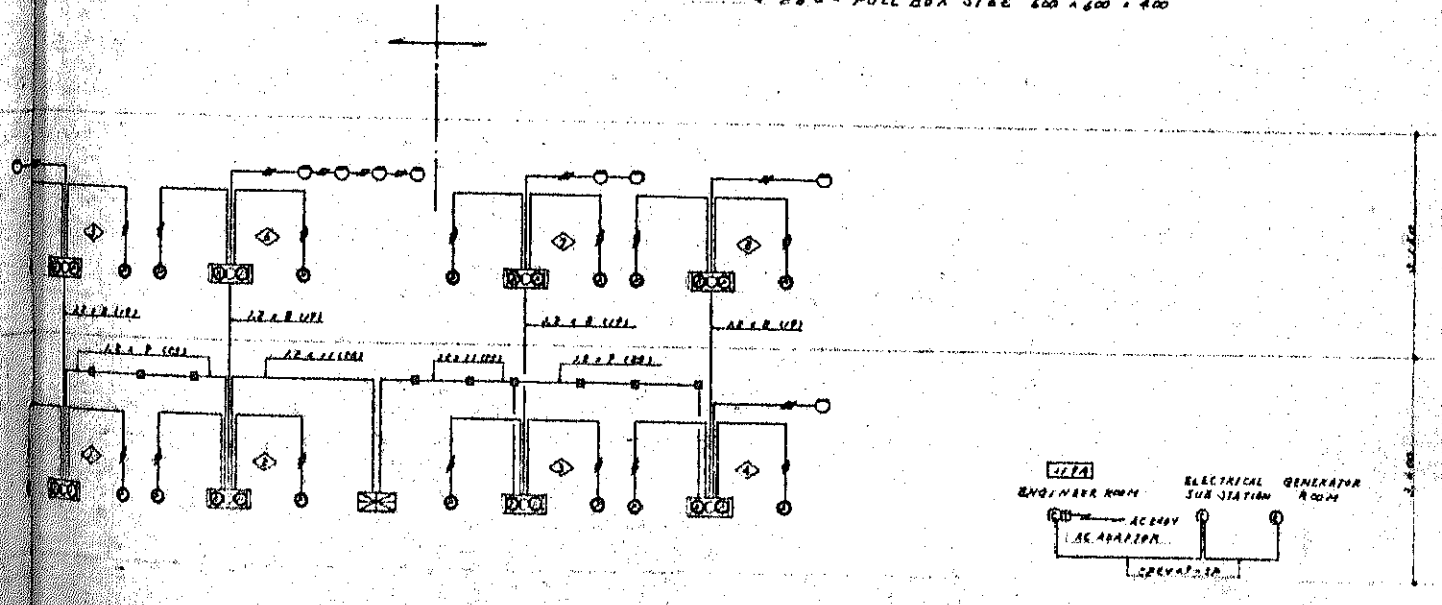
- NOTE:** THE FOLLOWING SEVEN ITEMS SHALL BE SUPPLIED BY CUSTOMER.
1. GENERATING ROOM STRUCTURE AND FITTING
 2. GALLERIES (ELECTRICAL AND VENTILATING)
 3. DISPERMATION OIL FENCE (OIL TRAP, ETC.)
 4. EXHAUST TRENCH, MOUND, DRAIN, AND COVER
 5. HOOD
 6. SLOPES FOR GAS VENTS AND EXHAUST PIPE
 7. UTILITY OF ELECTRIC SOURCE
 - a. DETECTION OF SERVICE INTERRUPTION
 - b. BATTERY CHARGER
 - c. VENTILATING FAN
 - d. ILLUMINATION



RISER DIAGRAM

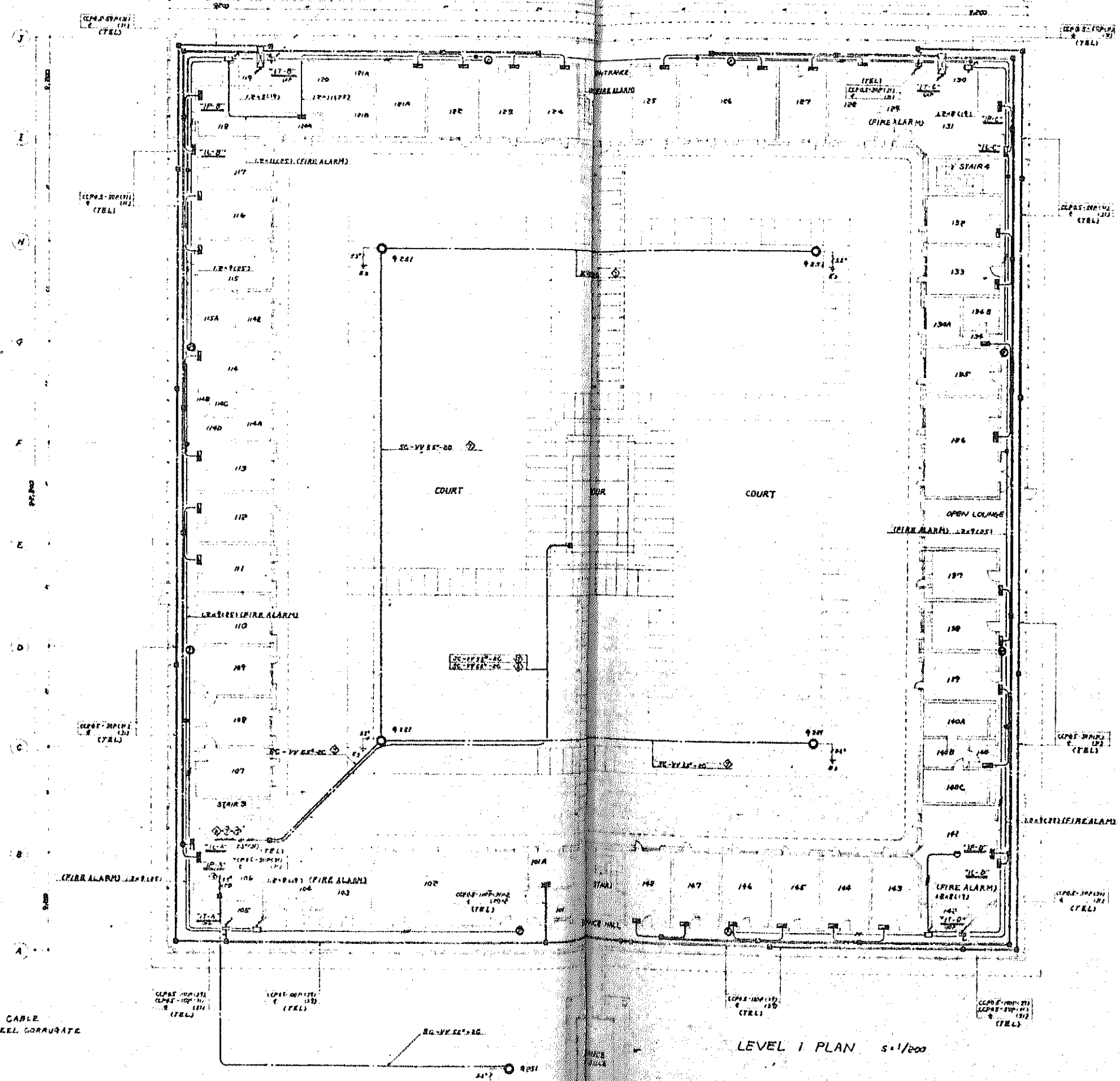


TELEPHONE FEEDER DIAGRAM



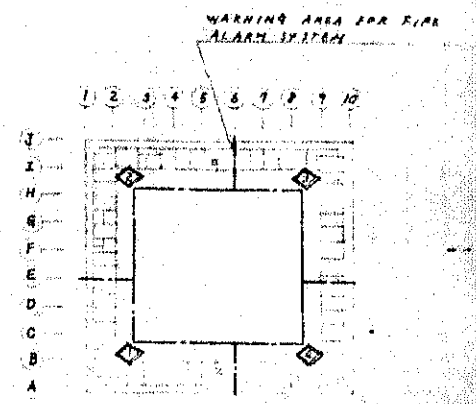
FIRE ALARM SYSTEM DIAGRAM

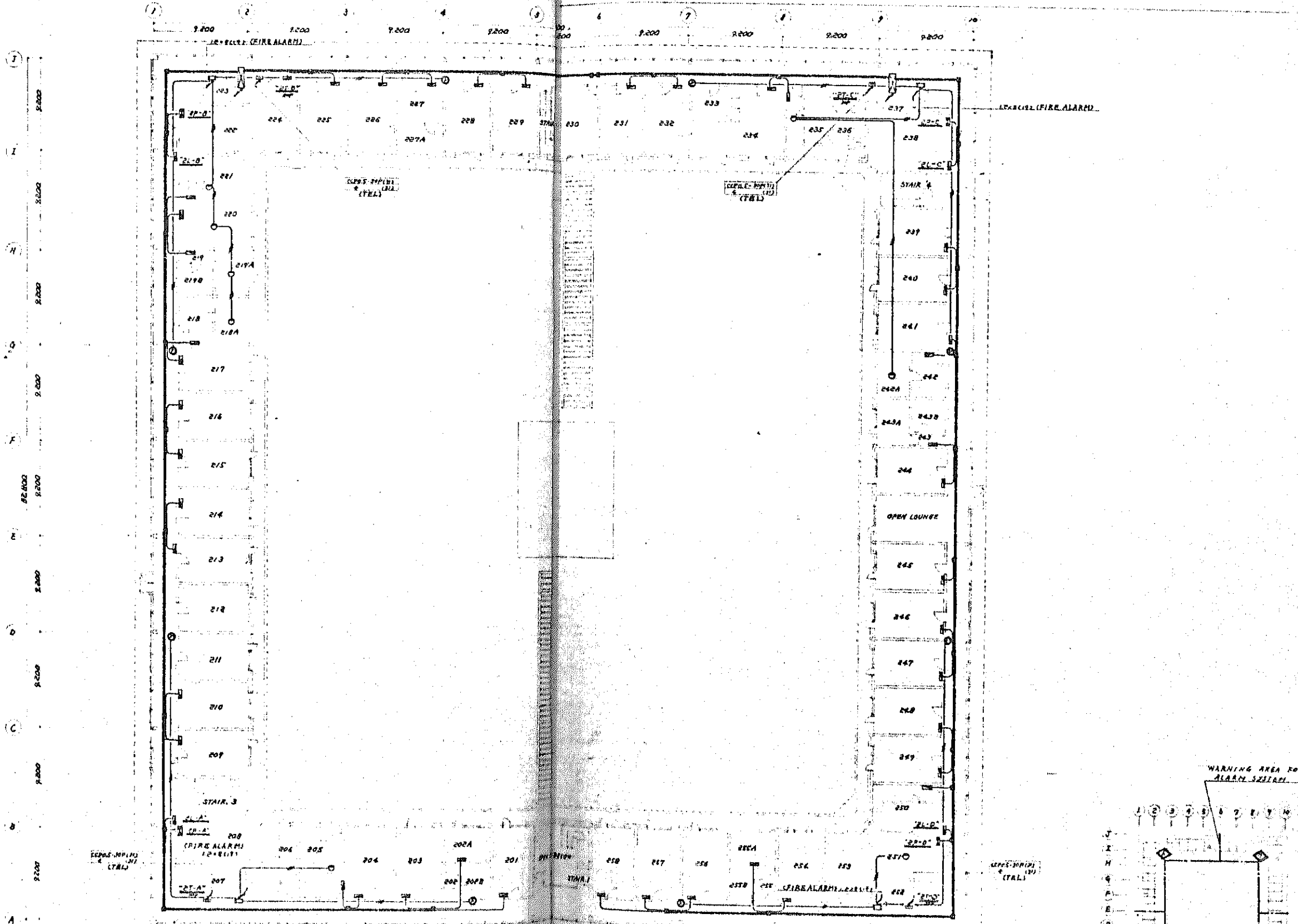
INTERPHONE SYSTEMS DIAGRAM



NOTE 1. SC-VV 80*80
VV CABLE
STEEL CORRUGATE

LEVEL 1 PLAN 1/200



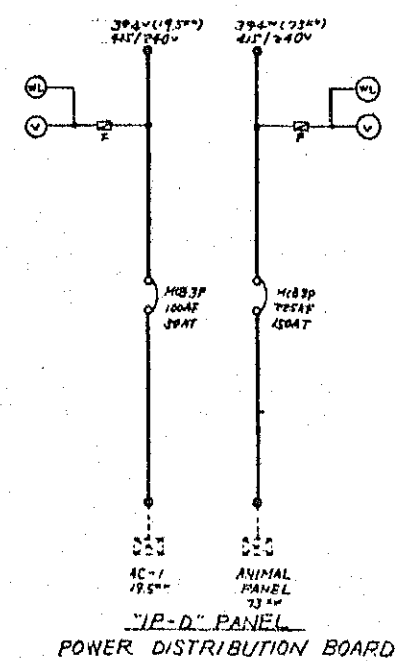
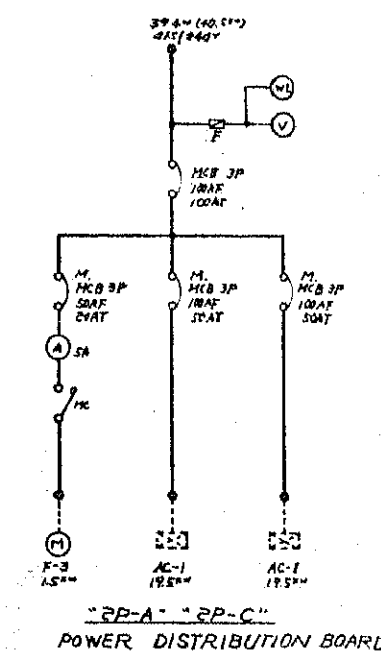
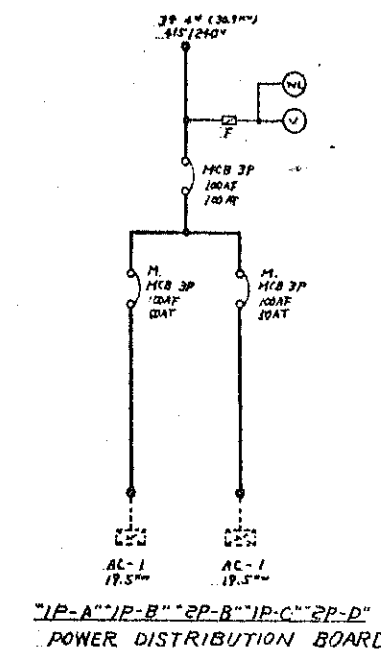


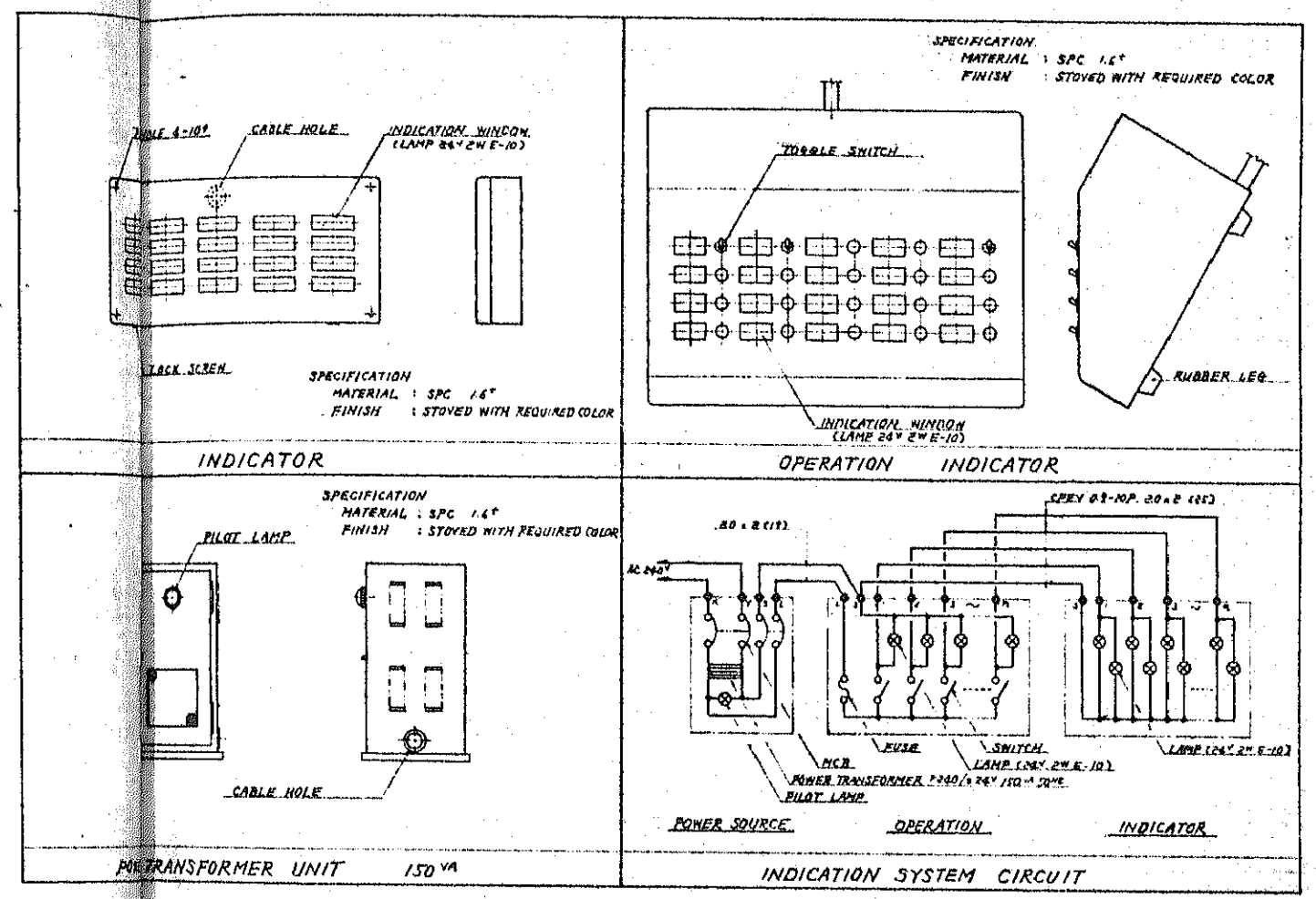
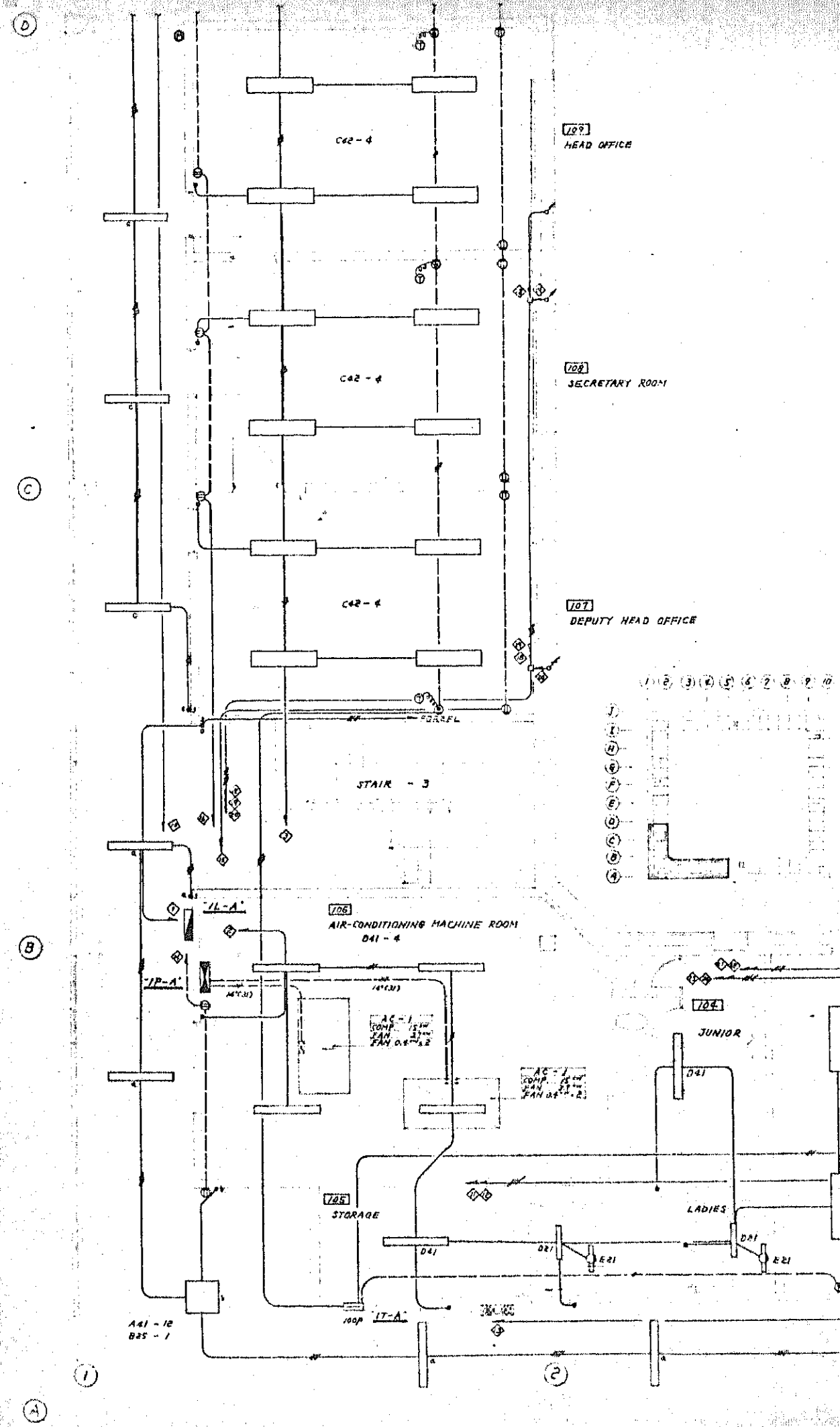
LEVEL 2 PLAN 1/200

ITEM	FLUX OF LIGHT (LM)	VOLTAGE (V)	LIFE (Hrs)
FL-FLUORESCENT LAMP	20W	1,200	2,500
	40W	3,300	10,000
IL-INCANDESCENT LAMP	25W	230	1,000
	60W	730	1,000
	100W	1,380	1,000
	150W	1,500	2,000
HF-HIGH PRESSURE MERCURY VAPOR LAMP	100W	4,500	10,000
	250W	11,500	10,000

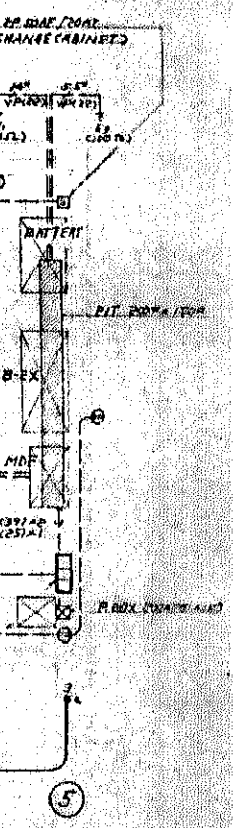
FLUSH MOUNTED TYPE	BRACKET TYPE	BRACKET TYPE	FLUSH MOUNTED TYPE
<p>MELAMIN-BAKED FINISH STEEL PLATE</p>	<p>PLASTIC</p>	<p>MELAMIN-BAKED FINISH STEEL PLATE GLASS</p>	<p>MELAMIN-BAKED FINISH STEEL PLATE DIFF. BAFFLE</p>
A42 FL40"x2 A41 FL40"x1	E21 FL20"x1	SAFETY LAMP FOR CLEAN ROOM Q251 IL25"x1	BEAM LAMP 8151 IL"x1
<p>MELAMIN-BAKED FINISH STEEL PLATE PLASTIC (ACRYLIC)</p>	<p>MELAMIN-BAKED FINISH STEEL PLATE SHEET ALUMINUM MELAMIN</p>	<p>MELAMIN-BAKED FINISH STEEL PLATE</p>	<p>MELAMIN-BAKED FINISH STEEL PLATE GLASS</p>
B25 FL20"x5	STERILIZE LAMP F151a GL15"x1	SPOT-LIGHT b151 IL150"x1	BEAM LAMP H 101 "x1
<p>MELAMIN-BAKED FINISH STEEL PLATE</p>	<p>MELAMIN-BAKED FINISH STEEL PLATE "IN USE"</p>	<p>MELAMIN-BAKED FINISH STEEL PLATE</p>	<p>MELAMIN-BAKED FINISH STEEL PLATE PLASTIC</p>
C42 FL40"x2 C22 FL20"x2	STERILIZE LAMP E252 IL25"x2	STERILIZE LAMP F151b GL15"x1	EXTRA LIGHT ALUMINUM
<p>MELAMIN-BAKED FINISH STEEL PLATE</p>	<p>MELAMIN-BAKED FINISH STEEL PLATE BOWL-LAMP</p>	<p>MELAMIN-BAKED FINISH STEEL PLATE WITH BAFFLE</p>	<p>MELAMIN-BAKED FINISH STEEL PLATE PLASTIC CONCRETE FOUNDATION BOWL ADD. 1.00</p>
D41 FL40"x1 D21 FL20"x1	A61 IL60"x1	F101 IL100"x1	HIGH PRESSURE MERCURY VAPOR LAMP G251 "x1

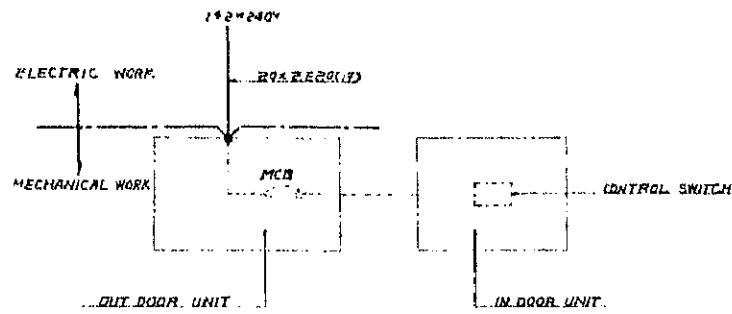
LIGHTING FIXTURE DETAILS



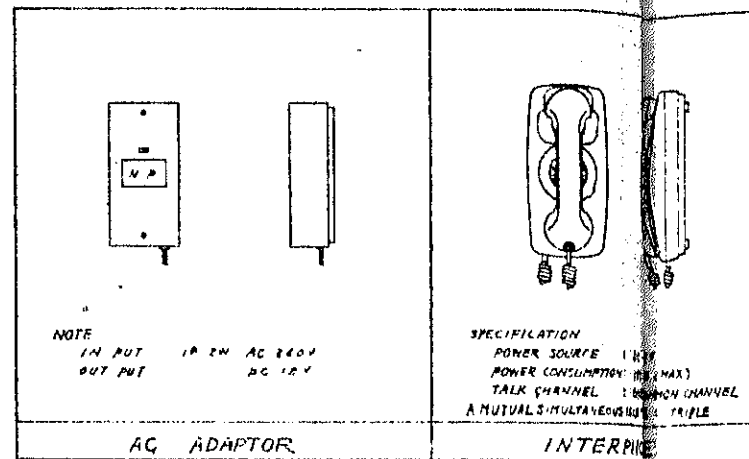


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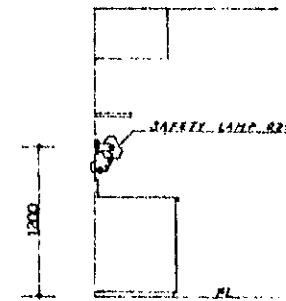




WORK DISTRIBUTION



INTERPHONE DETAIL

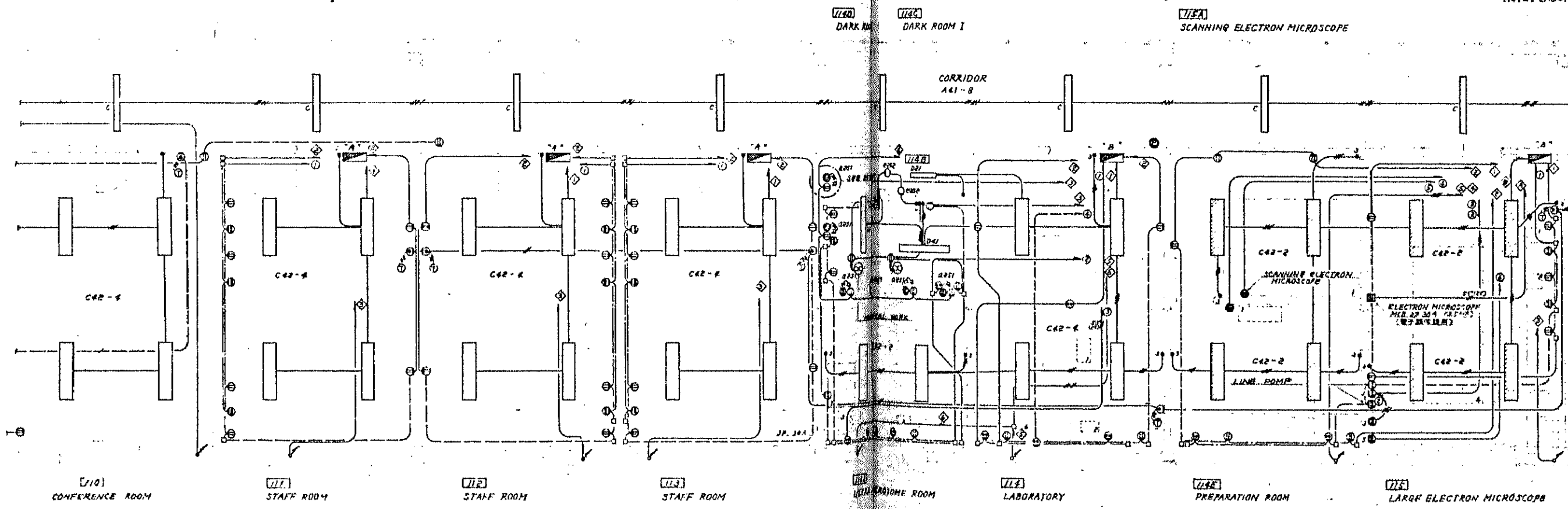


DETAIL "A"

EQUIPMENT LIST

RM. NO	ITEM	VOLTAGE	CAPACITY	DESCRIPTION
174A	1. MICROTOME	100V		
	2. MICROSCOPE	100V	100W	
	3. ULTRA CENTRIFUGE	100V	3,000W	离心分离器
174C	1. INCUBATOR	100V	200W	电子培养箱
	1. VACUUM EVAPORATOR	100V	2,500W	真空蒸发器
174D	2. DRYER	100V	500W	
	3. INCUBATOR	100V	1,300W	
	4. OVEN	100V		
	5. CENTRIFUGE	100V	3,000W	
	6. THERMAL STORAGE HEATER	100V	1,000W	
	1. DEEP FREEZER	EP 100V	1,500W	
175A	1. ELECTRON MICROSCOPE	EP 100V	1,000W	
175B	1. HIGH VACUUM EVAPORATOR	100V	2,000W	
	2. CRITICAL POINT DRYER	100V	500W	
	3. UNIT COLOR	EP 100V	580W	23ET
	4. ELECTRON MICROSCOPE	EP 240V	3,500W	
	5. CHILLED WATER PUMP	EP 100V	250W	

NOTE: LABORATORY EQUIPMENT BY OTHERS

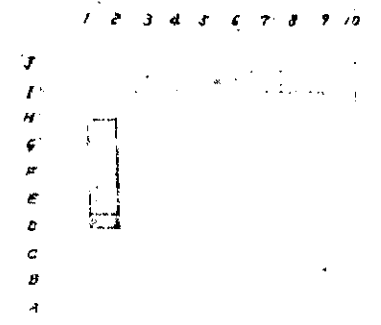


WIRING FOR LIGHTING	WIRING FOR SOCKET	WIRING FOR TELEPHONE
16#2E16 (19)	20#16 (19)	T1VF 02-20-01 (19)
16#3E16 (25)	20#16 (19)	T1VF 02-20-02 (19)
16#4E16 (25)	20#16 (19)	T1VF 02-20-03 (19)
16#5E16 (25)	20#16 (19)	T1VF 02-20-04 (19)
16#6E16 (25)	20#16 (19)	T1VF 02-20-05 (19)
16#7E16 (25)	20#16 (19)	T1VF 02-20-06 (19)
16#8E16 (25)	20#16 (19)	T1VF 02-20-07 (19)

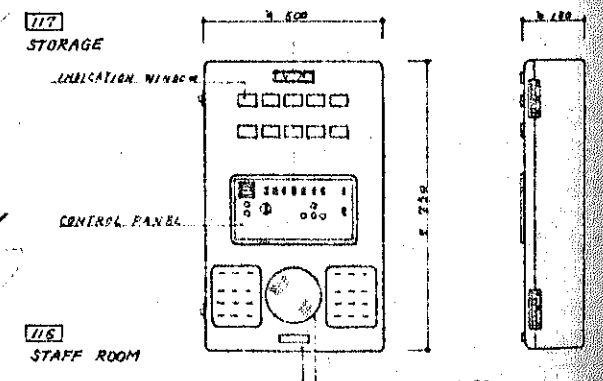
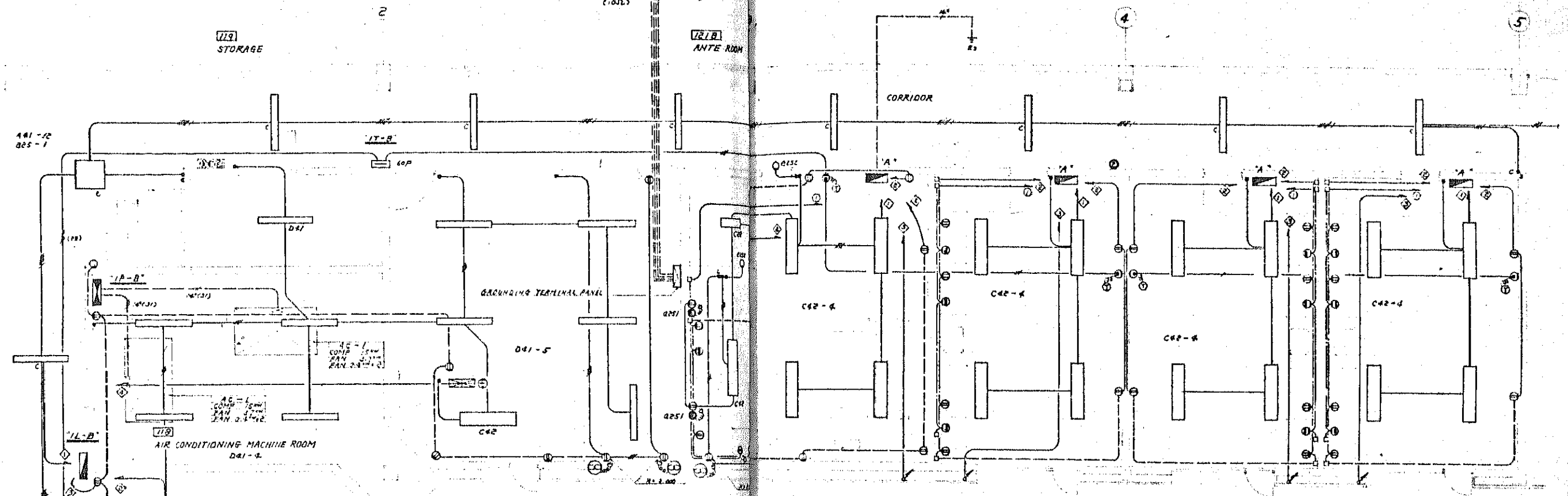
NOTE: ALL RECEPTACLES WITH PLUG SHALL BE INSTALLED FOR LABORATORY EXCEPT PUBLIC AREA FOR WITH OUT PLUG

CONDUIT TYPE: PVC
GROUND WIRE: 1.5mm
WIRE SIZE: 1.5mm

WIRING

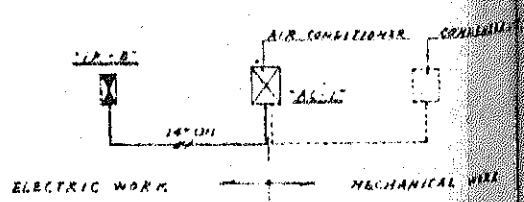


NOTE
 E1. GROUNDING ELECTRODE COPPER PLATE 1000 x 1000 x 1.5" x 1
 GROUNDING ELECTRODE SECTIONAL INTER CONNECTING TYPE 1/2" x 1/2" x 1/2" x 2
 E2. GROUNDING ELECTRODE COPPER PLATE 500 x 500 x 1.5" x 1
 E3. GROUNDING ELECTRODE COPPER PLATE 500 x 250 x 1.5" x 1
 E4 OR GROUNDING ELECTRODE COPPER PLATE 1000 x 1000 x 1.5" x 1

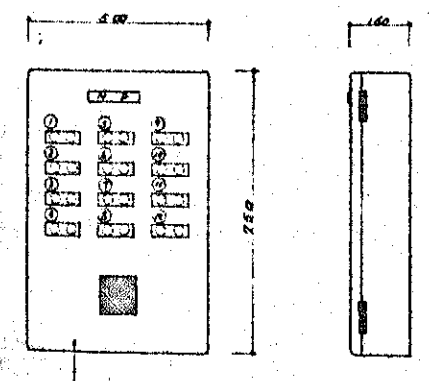


NOTE
 1. INPUTS TO
 2. FIRE CONTROL SHALL BE
 INSTALLED WITH
 RELAY SIGNALING

CLASS I FIRE CONTROL PANEL WALL MOUNTED TYPES

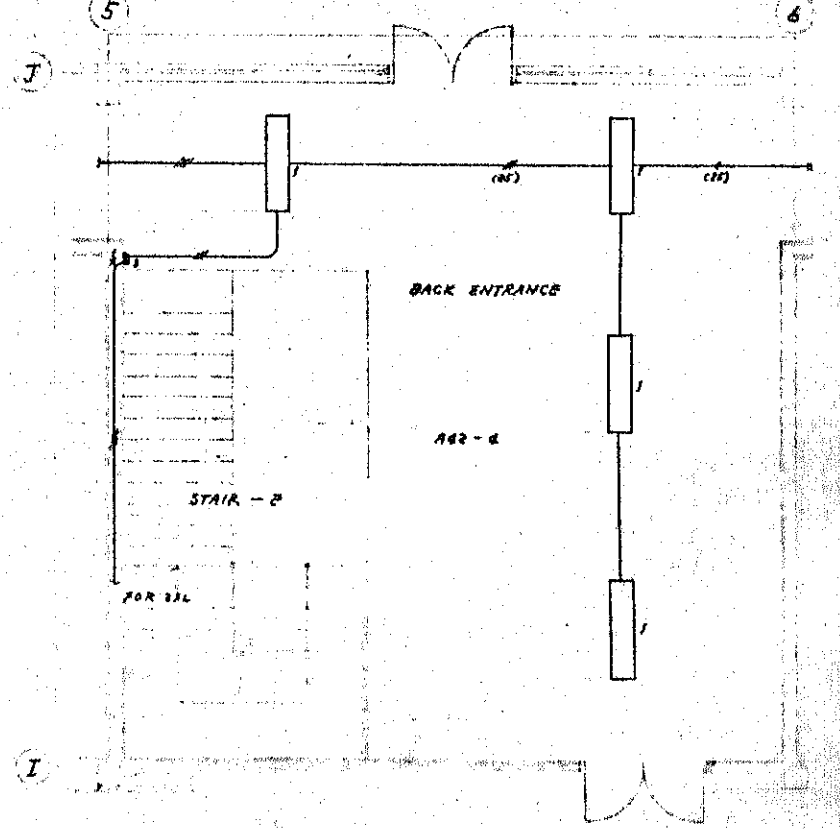


WORK DISTRIBUTION



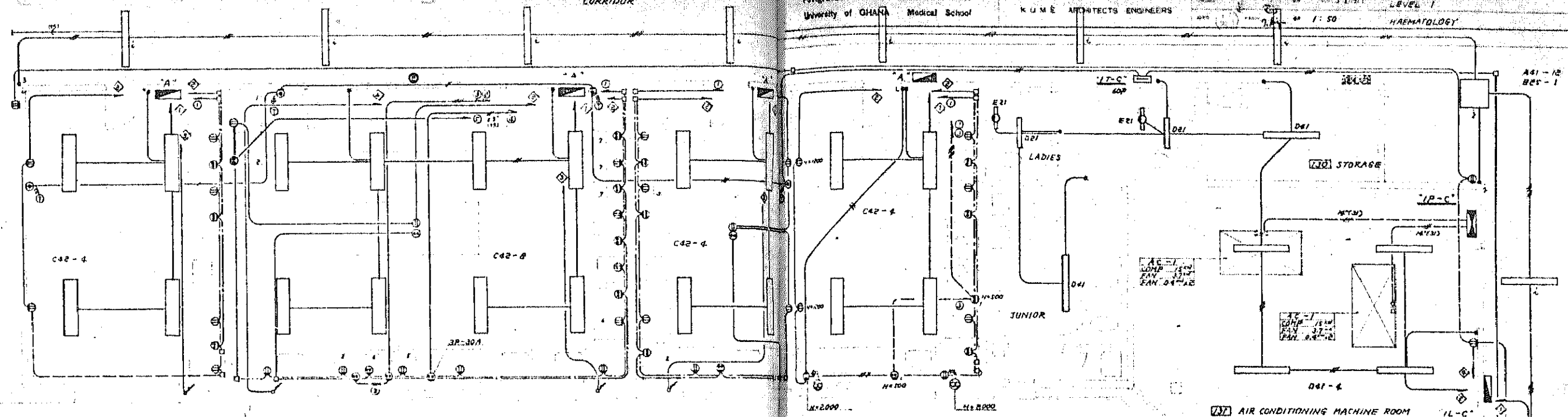
SPECIFICATION	
N.O.	TYPE
1	SEVERAL HAZY FAULT
2	SEVERAL LIGHT FAULT
3	ELEC. RM. TRIP INDICATOR NO.1
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ELEVATION FOR ALARM PANEL



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726 DATA / SECRETARIAL ROOM
727 AUTO-COUNTER & ACCESSORIES
728 HAEMOGLOBINOPHY MEASUREMENT
729 WASHING ROOM

EQUIPMENT LIST

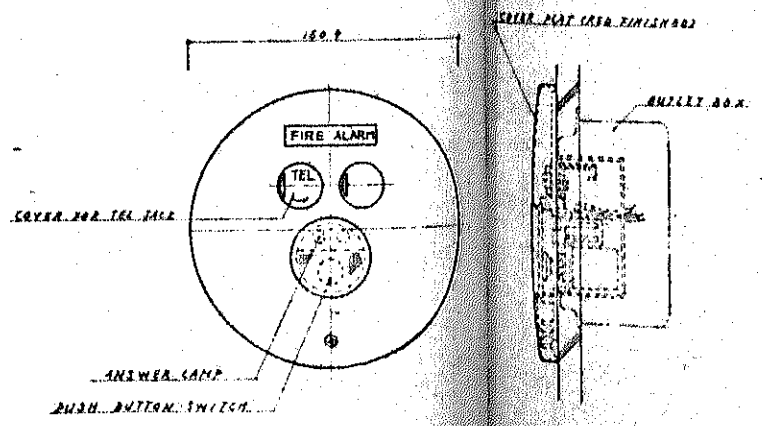
RM. NO.	ITEM	VOLTAGE	CAPACITY	DESCRIPTION
726	1. REFRIGERATOR	240 V	300 W	
	2. DEEP FREEZER	EP 100 V	1,500 W	
	3. DISTILLING APPARATUS	100 V	1,500 W	
	4. WATER BATH	100 V	1,500 W	
	5. CENTRIFUGE	100 V	3,300 W	
	6. AUTOMATIC STAINER	100 V	500 W	
	7. MICROSCOPE	100 V	100 W	
727	1. REFRIGERATOR	240 V	300 W	
	2. HOT AIR DRYER	100 V	900 W	
	3. MICROSCOPE	100 V	100 W	
	4.	EP 100 V	1,000 W	显微镜底座
728	1. REFRIGERATOR	240 V	300 W	
	2. DEEP FREEZER	EP 240 V	600 W	
	3. WATER BATH	240 V	200 W	
	4. MICROSCOPE	100 V	100 W	
729	1. REFRIGERATOR	240 V	300 W	
	2. DEEP FREEZER	EP 100 V	1,500 W	
	3. REFRIGERATED CENTRIFUGE	240 V	12,000 W	
	4. PHASE CONTRAST MICROSCOPE	100 V	100 W	
	5. PLATELET AGGREGOMETER			
734B	1. MICROSCOPE	100 V	100 W	
	2.	100 V	2,300 W	显微镜底座

NOTE: LABORATORY EQUIPMENT BY OTHERS

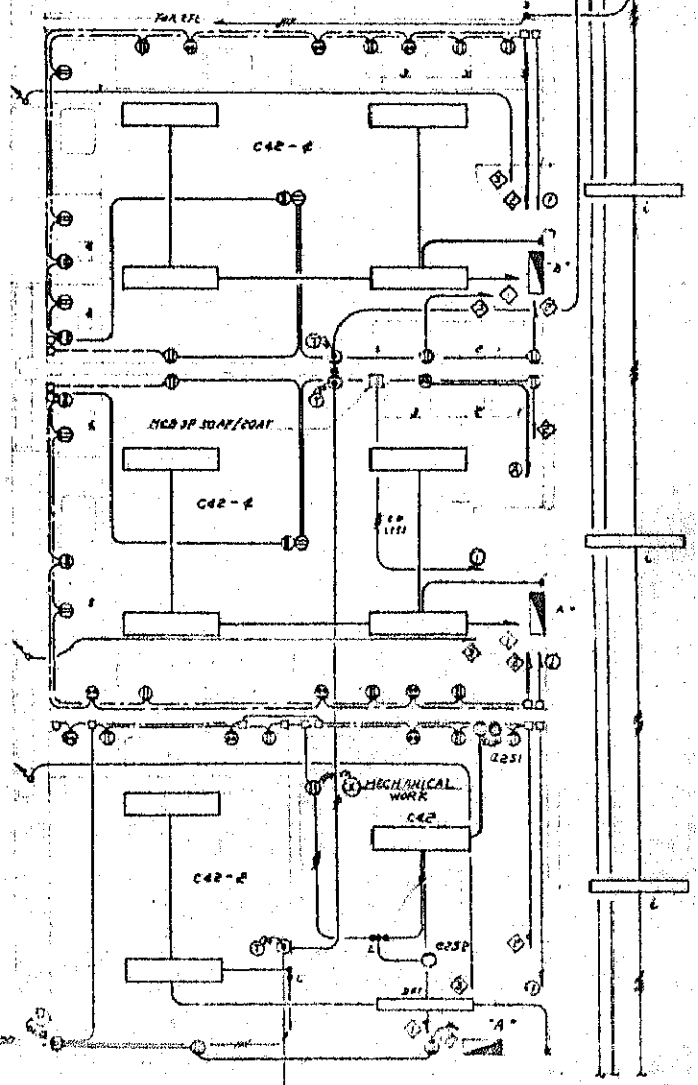
EQUIPMENT LIST

RM. NO.	ITEM	VOLTAGE	CAPACITY	DESCRIPTION
729	1. THERMAL STORAGE HEATER	100 V		热存储加热器

NOTE: LABORATORY EQUIPMENT BY OTHERS



CLASS I MANUAL ALARM BOX



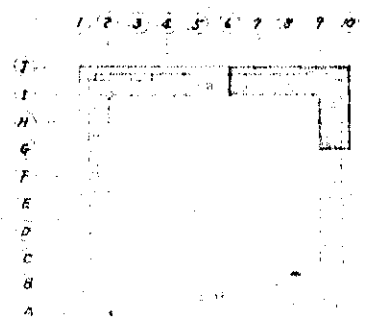
732 IMMUNO - HAEMATOLOGY

733 COAGULATION

734 PREPARATION

735 DARK ROOM

736 ANTE ROOM



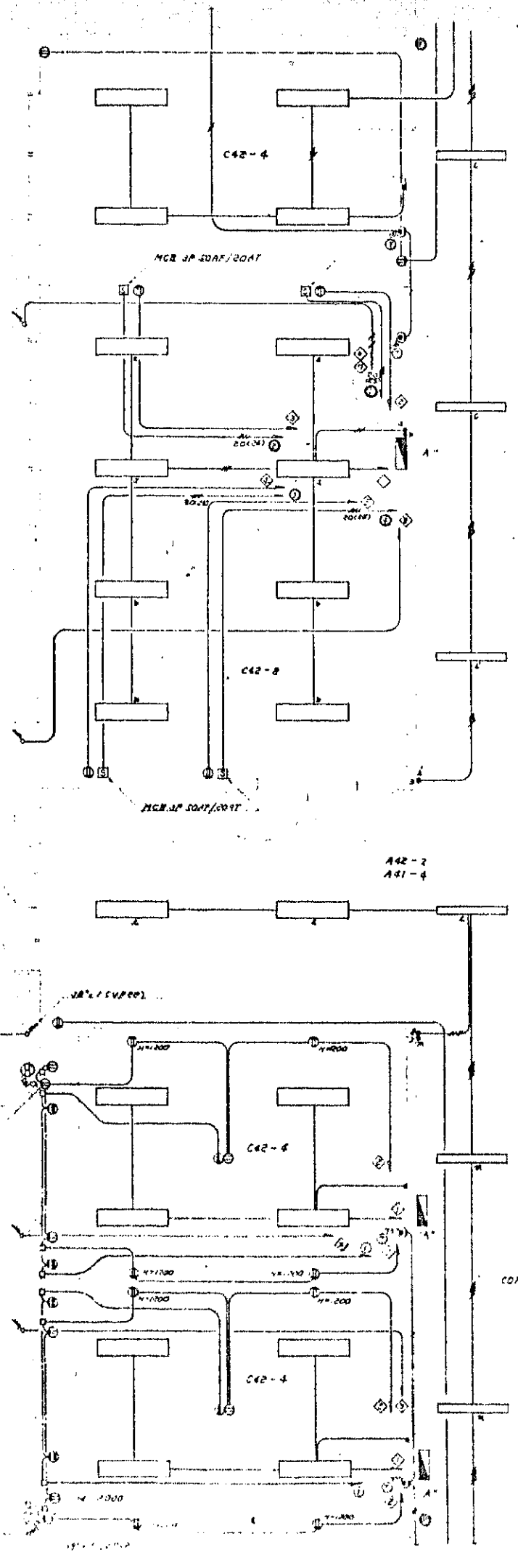
735 STORAGE

736 WORK SHOP

OPEN LOUNGE

737 BREEDING ROOM

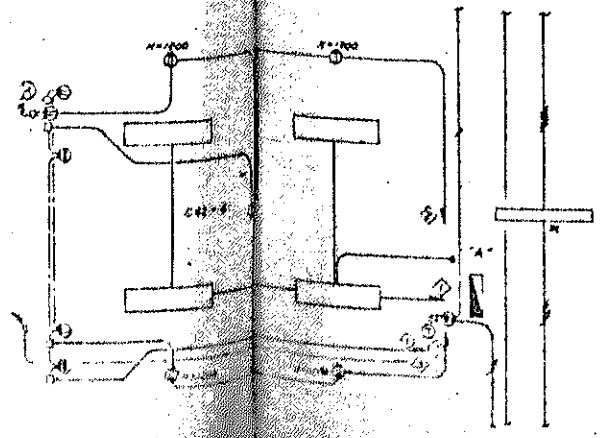
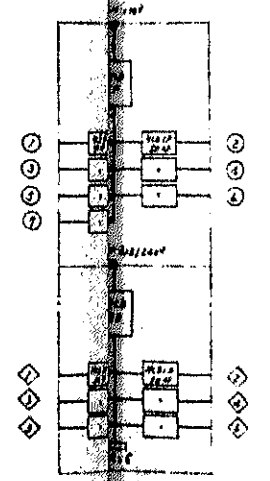
738 ANIMAL OPERATION ROOM



EQUIPMENT LIST

RM. NO.	ITEM	VOLTAGE	CAPACITY	DESCRIPTION
	1 BALL MINE		500W	球-刀盤
	2 MILL MACHIN		500W	731刀盤
736	3 LAMP		500W	燈 盤
	4		500W	

NOTE: LABORATORY EQUIPMENT BY OTHERS.



739 ANIMAL EXPERIMENTAL ROOM

