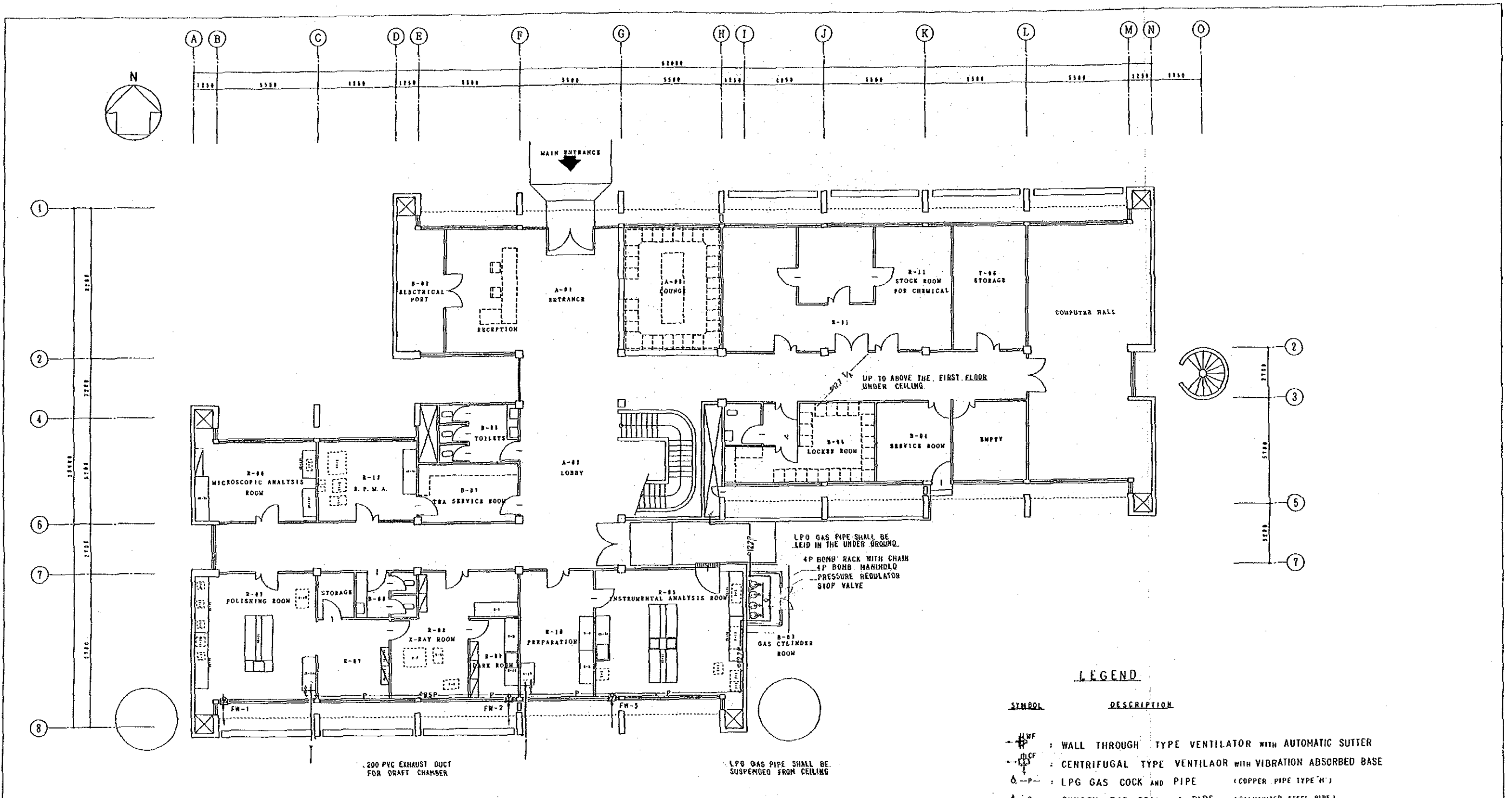


AIR - CONDITIONING/MECHANICAL DRAWINGS

SAJ 304 - M004	LABORATORY BUILDING	VENTILATION & LPG GAS PIPING LAYOUT (GROUND FLOOR) 1/2
SAJ 304 - M005	LABORATORY BUILDING	VENTILATION & LPG GAS PIPING LAYOUT (FIRST FLOOR) 2/2
SAJ 304 - M006	LABORATORY BUILDING	DOMESTIC WATER & CHEMICAL DRAIN PIPING LAYOUT (GROUND FLOOR) 1/2
SAJ 304 - M007	LABORATORY BUILDING	LAYOUT (FIRST FLOOR) 2/2
SAJ 304 - M103	TEST PLANT BUILDING	AIR - CONDITIONING & VENTILATING LAYOUT
SAJ 304 - M104	TEST PLANT BUILDING	DOMESTIC WATER & CHEMICAL DRAIN PIPING LAYOUT
SAJ 304 - M105	TEST PLANT BUILDING	SCHEMATIC DIAGRAM OF PLUMBING & DETAILED FACILITIES



GROUND FLOOR PLAN SCALE: 1/100

LEGEND

SYMBOL	DESCRIPTION
	WALL THROUGH TYPE VENTILATOR WITH AUTOMATIC SUTTER
	CENTRIFUGAL TYPE VENTILATOR WITH VIBRATION ABSORBED BASE
	LPG GAS COCK AND PIPE (COPPER PIPE TYPE 'H')
	OXYGEN GAS COCK AND PIPE (GALVANIZED STEEL PIPE)
	ARGON GAS COCK AND PIPE (STAINLESS STEEL PIPE)
	P.R. GAS COCK AND PIPE (DITTO)
	NITROGENOUS GAS COCK AND PIPE (DITTO)
	AIR COCK AND PIPE (GALVANIZED STEEL PIPE)
	GAS BOMB (P. O. A. P.R. H)
	TO ABOVE
	TO BELOW
	FROM ABOVE
	FROM BELOW

VENTILATOR SCHEDULE

DESCRIPTION	TYPE	CAPACITY		Qty	REMARK & LOCATION
		AIR FLOW M ³ /Hr	MOTOR WATT		
WF-1 EXHAUST FAN	WALL MOUNTED AXIAL TYPE	840	20	1	12" x 110" R-07 POLISHING ROOM
WF-2 - DITTO -	- DITTO -	390	15	1	12" x 110" R-08 DARK ROOM
WF-3 - DITTO -	- DITTO -	840	20	1	12" x 110" R-09 INSTR. ANALY. R.M.
WF-4 - DITTO -	- DITTO -	1,500	50	1	12" x 110" R-03 CORROSION TEST R.M.
WF-5 - DITTO -	- DITTO -	1,500	50	1	12" x 110" R-04 CHEMICAL ANALY. R.M.
CF-1 AIR SUPPLY FAN	CENTRIFUGAL TYPE	2,000	400	1	12" x 110" 10mm Ag R-03 CORROSION TEST R.M.
CF-2 - DITTO -	- DITTO -	2,000	400	1	12" x 110" 10mm Ag R-04 CHEMICAL ANALY. R.M.

PROJECT: JAPAN-SAUDI ARABIA RESEARCH PROJECT OF SEA WATER DESALINATION

LABORATORY BUILDING (1/2)

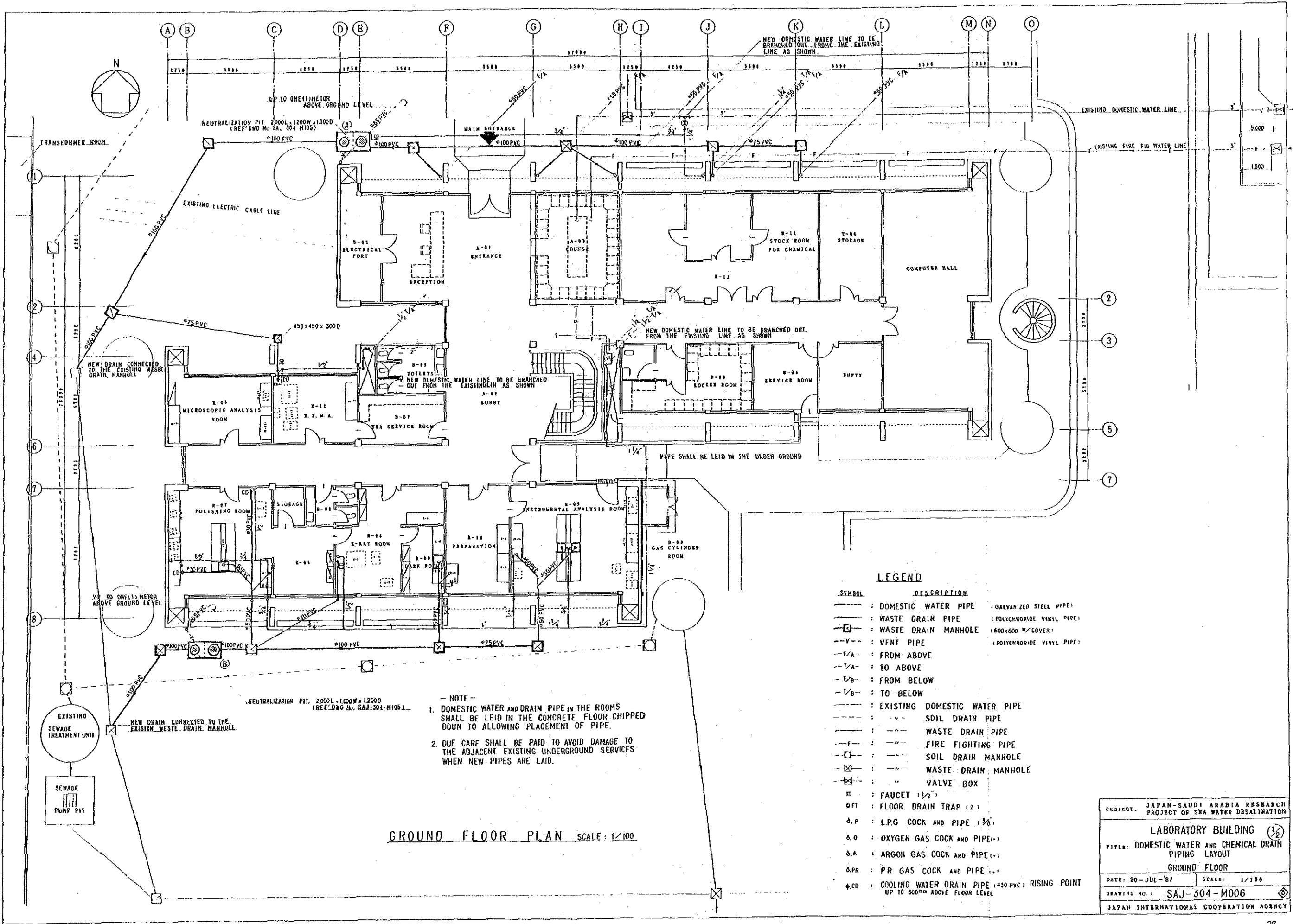
TITLE: VENTILATION AND LPG GAS PIPING LAYOUT

GROUND FLOOR

DATE: 17-JUL-87 SCALE: 1/100

DRAWING NO.: SAJ-304-M004

JAPAN INTERNATIONAL COOPERATION AGENCY



- NOTE -

- DOMESTIC WATER AND DRAIN PIPE IN THE ROOMS SHALL BE LAID IN THE CONCRETE FLOOR CHIPPED DOWN TO ALLOWING PLACEMENT OF PIPE.
- DUE CARE SHALL BE PAID TO AVOID DAMAGE TO THE ADJACENT EXISTING UNDERGROUND SERVICES WHEN NEW PIPES ARE LAID.

GROUND FLOOR PLAN SCALE: 1/100

LEGEND

SYMBOL	DESCRIPTION
— (solid line)	DOMESTIC WATER PIPE (GALVANIZED STEEL PIPE)
— (dashed line)	WASTE DRAIN PIPE (POLYCHLORIDE VINYL PIPE)
⊕ (circle with cross)	WASTE DRAIN MANHOLE (600x600 W/COVER)
—V— (dashed line with V)	VENT PIPE (POLYCHLORIDE VINYL PIPE)
—V/A— (dashed line with V/A)	FROM ABOVE
—V/A— (dashed line with V/A)	TO ABOVE
—V/B— (dashed line with V/B)	FROM BELOW
—V/B— (dashed line with V/B)	TO BELOW
— (dotted line)	EXISTING DOMESTIC WATER PIPE
— (dotted line)	SOIL DRAIN PIPE
— (dotted line)	WASTE DRAIN PIPE
— (dotted line)	FIRE FIGHTING PIPE
⊕ (circle with cross)	SOIL DRAIN MANHOLE
⊕ (circle with cross)	WASTE DRAIN MANHOLE
⊕ (circle with cross)	VALVE BOX
⊕ (circle with cross)	FAUCET (1/2")
⊕ (circle with cross)	FLOOR DRAIN TRAP (2)
⊕ (circle with cross)	L.P.G COCK AND PIPE (1/2")
⊕ (circle with cross)	OXYGEN GAS COCK AND PIPE (1/2")
⊕ (circle with cross)	ARGON GAS COCK AND PIPE (1/2")
⊕ (circle with cross)	PR GAS COCK AND PIPE (1/2")
⊕ (circle with cross)	COOLING WATER DRAIN PIPE (250 PVC) RISING POINT UP TO 500mm ABOVE FLOOR LEVEL

PROJECT: JAPAN-SAUDI ARABIA RESEARCH PROJECT OF SEA WATER DESALINATION

LABORATORY BUILDING (1/2)

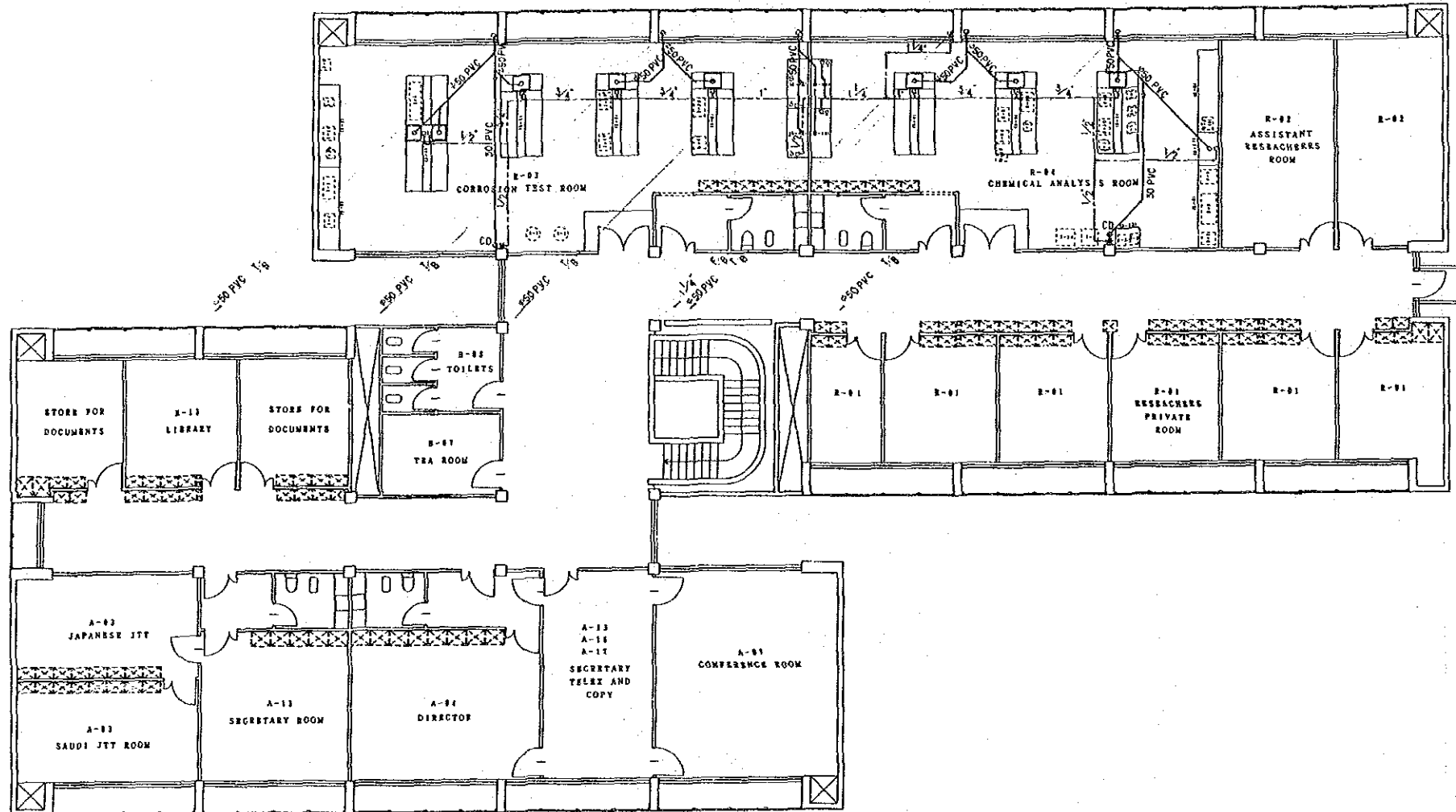
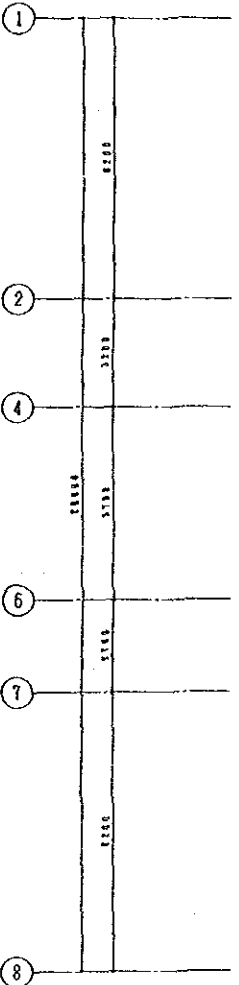
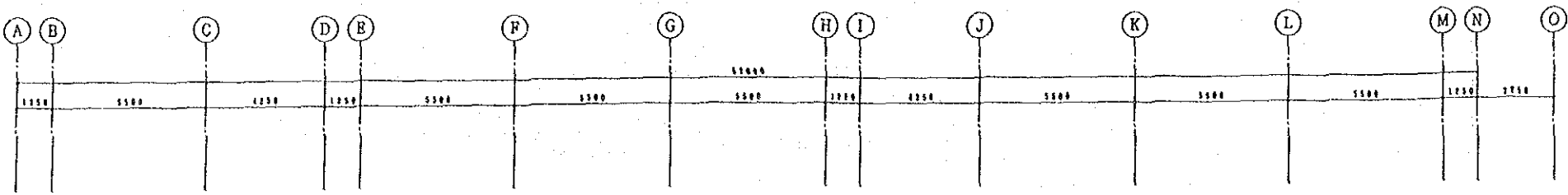
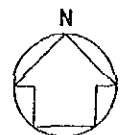
TITLE: DOMESTIC WATER AND CHEMICAL DRAIN PIPING LAYOUT

GROUND FLOOR

DATE: 20-JUL-87 SCALE: 1/100

DRAWING NO.: SAJ-304-M006

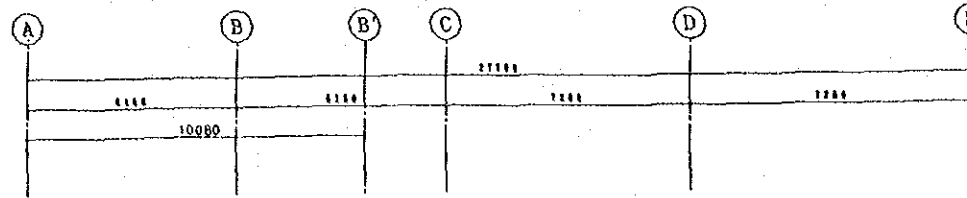
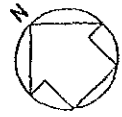
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--NOTE--
DOMESTIC WATER AND DRAIN PIPE SHALL BE ON OR SLIGHTLY ABOVE THE EXISTING FLOOR WITH PIPE SLOPED.

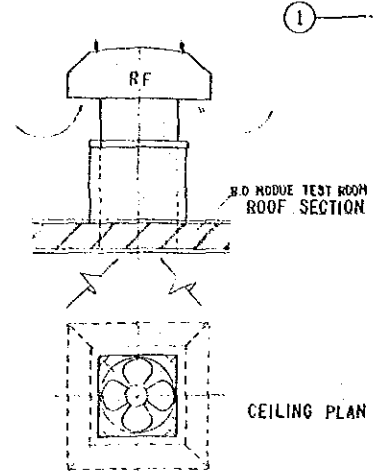
FIRST FLOOR PLAN SCALE: 1/100

PROJECT: JAPAN-SAUDI ARABIA RESEARCH PROJECT OF SEA WATER DESALINATION	
LABORATORY BUILDING (2)	
TITLE: DOMESTIC WATER AND CHMICAL DRAIN PIPING LAYOUT	
FIRST FLOOR	
DATE: 21-JUL-67	SCALE: 1/100
DRAWING NO.: SAJ-304-M007 (4)	
JAPAN INTERNATIONAL COOPERATION AGENCY	

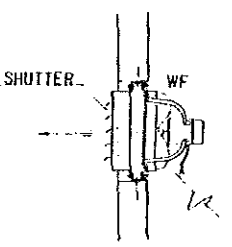


LEGEND

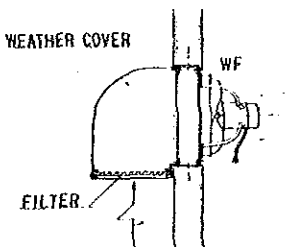
SYMBOL	DESCRIPTION
FC	SPLIT TYPE ROOM AIR CONDITIONER (FANCOIL UNIT)
CU	- DITTO - (AIR COOLED CONDENSER)
	WALL MOUNTED AIR SUPPLY FAN WITH AIR FILTER
	WALL MOUNTED EXHAUST FAN WITH SHUTTER
R	REFRIGERANT PIPING
δc	ACETYLEN GAS COCK
δo	OXYGEN GAS COCK
δa	COMPRESSED
δp	LPG GAS COCK
RF	ROOF MOUNTED EXHAUST FAN



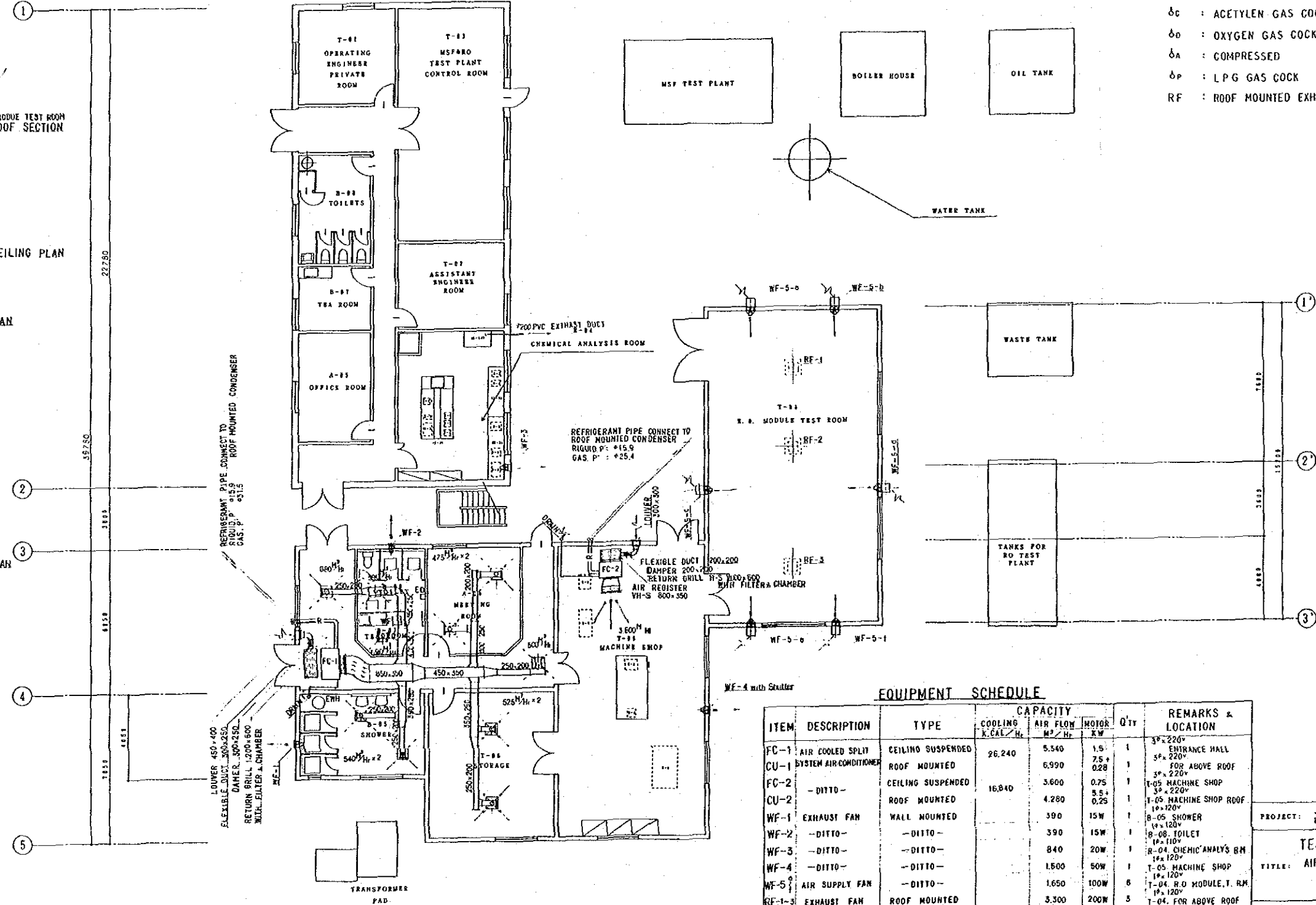
ROOF MOUNTED TYPE EXHAUST FAN



WALL MOUNTED TYPE EXHAUST FAN



WALL MOUNTED TYPE AIR SUPPLY FAN



EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	TYPE	CAPACITY		MOTOR	QTY	REMARKS & LOCATION
			COOLING K.CAL/Hr	AIR FLOW M ³ /Hr			
FC-1	AIR COOLED SPLIT	CEILING SUSPENDED	26,240	5,540	1.5	1	3'x220"
CU-1	SYSTEM AIR CONDITIONER	ROOF MOUNTED		6,990	7.5 + 0.28	1	5'x220" FOR ABOVE ROOF
FC-2	- DITTO -	CEILING SUSPENDED	16,840	3,600	0.75	1	3'x220" T-05 MACHINE SHOP
CU-2	- DITTO -	ROOF MOUNTED		4,280	3.5 + 0.25	1	3'x220" T-05 MACHINE SHOP ROOF
WF-1	EXHAUST FAN	WALL MOUNTED		390	15W	1	T-05 SHOWER
WF-2	- DITTO -	- DITTO -		390	15W	1	T-05 TOILET
WF-3	- DITTO -	- DITTO -		840	20W	1	T-04 CHEMICAL ANALYSIS RM
WF-4	- DITTO -	- DITTO -		1,500	50W	1	T-05 MACHINE SHOP
WF-5	AIR SUPPLY FAN	- DITTO -		1,650	100W	6	T-04 R.O. MODULE, T. RM
RF-1-3	EXHAUST FAN	ROOF MOUNTED		3,300	200W	3	T-04 FOR ABOVE ROOF

PROJECT: JAPAN-SAUDI ARABIA RESEARCH PROJECT OF SEA WATER DESALINATION

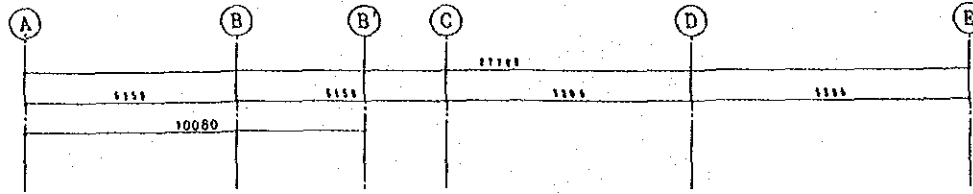
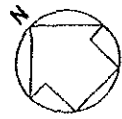
TEST PLANT BUILDING

TITLE: AIR-CONDITIONING AND VENTILATING LAYOUT

DATE: 24-JUL-87 SCALE: 1:100

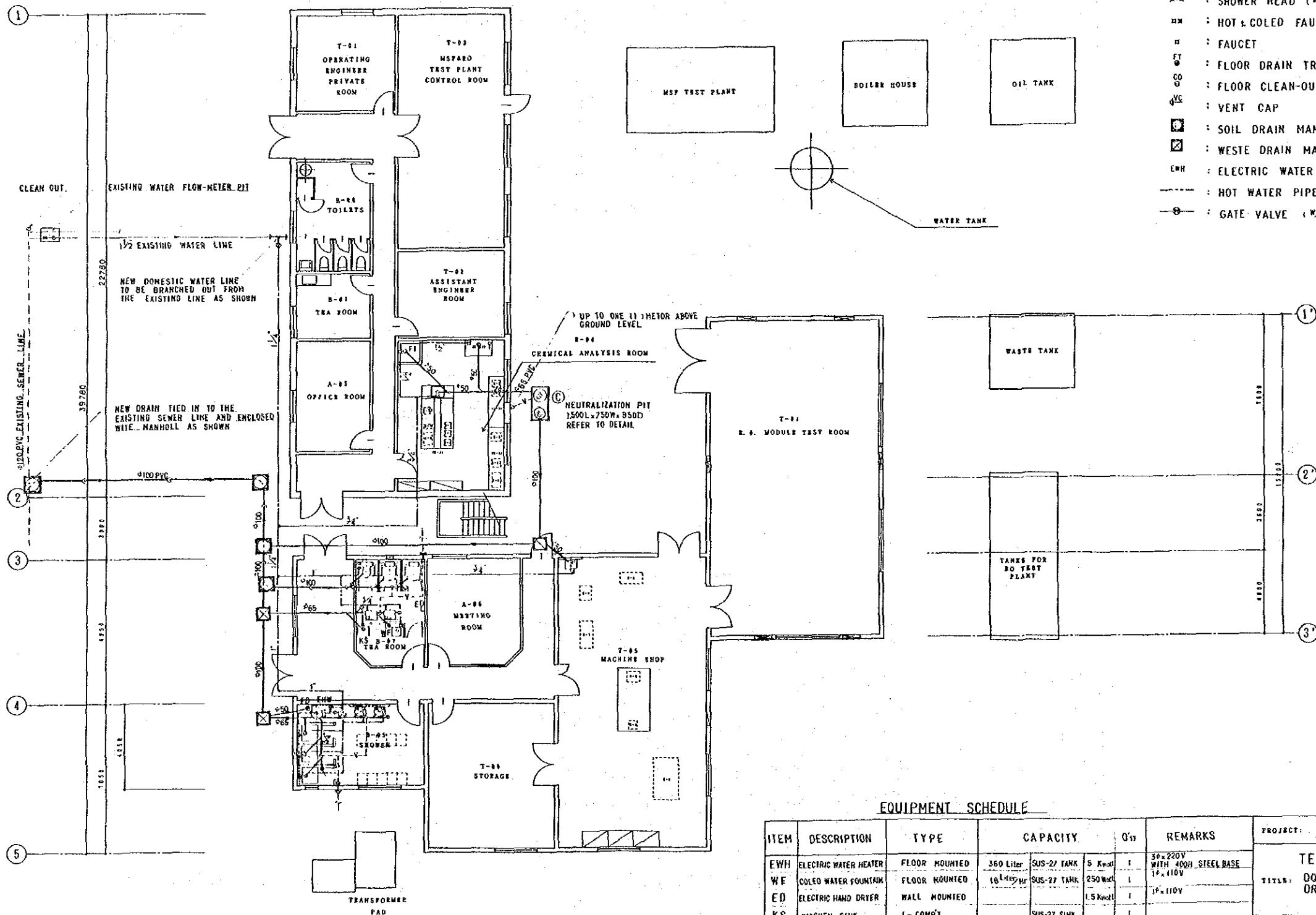
DRAWING NO: SAJ-304-M103

JAPAN INTERNATIONAL COOPERATION AGENCY



LEGEND

SYMBOL	DESCRIPTION
	DOMESTIC WATER PIPE GALVANIZED (STEEL PIPE)
	SOIL DRIN PIPE (POLYCHLORIDE VINYL PIPE)
	WASTE DRAIN PIPE (-DIFFO-)
	VENT PIPE (-DITTO-)
	SHOWER HEAD (W/MIX VALVE & FLEXIBLE HOSE)
	HOT & COLED FAUCET
	FAUCET
	FLOOR DRAIN TRAP
	FLOOR CLEAN-OUT
	VENT CAP
	SOIL DRAIN MANHOLE (600x600) WITH INVERT
	WASTE DRAIN MANHOLE (550x550)
	ELECTRIC WATER HEATER
	HOT WATER PIPE (W TYPE COPPER TUBE)
	GATE VALVE (W/BOX)



EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	TYPE	CAPACITY	QTY	REMARKS
EWH	ELECTRIC WATER HEATER	FLOOR MOUNTED	360 Liter	SUS-27 TANK	5 Kwatt 1 50x220V WITH 400H STEEL BASE
WF	COLED WATER FOUNTAIN	FLOOR MOUNTED	10 L/100 Hr	SUS-27 TANK	250 Kwatt 1 12x110V
ED	ELECTRIC HAND DRYER	WALL MOUNTED			1.5 Kwatt 1 12x110V
KS	KITCHEN SINK	1-COMP'T		SUS-27 SINK	1

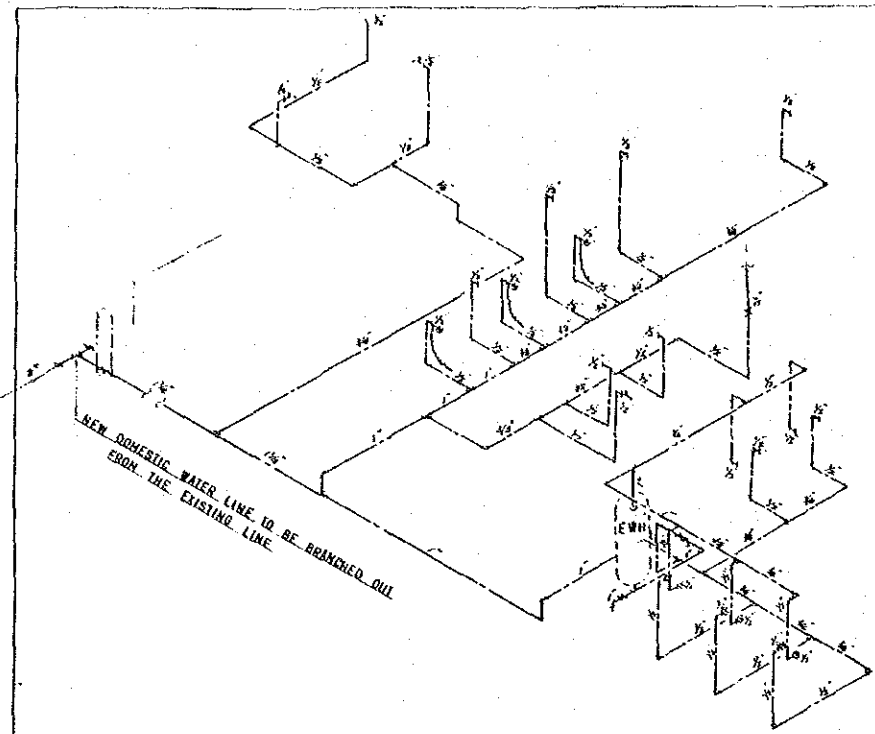
PROJECT: JAPAN-SAUDI ARABIA RESEARCH PROJECT OF SEA WATER DESALINATION

TITLE: TEST PLANT BUILDING DOMESTIC WATER, SOIL AND WASTE DRAIN PIPING LAYOUT

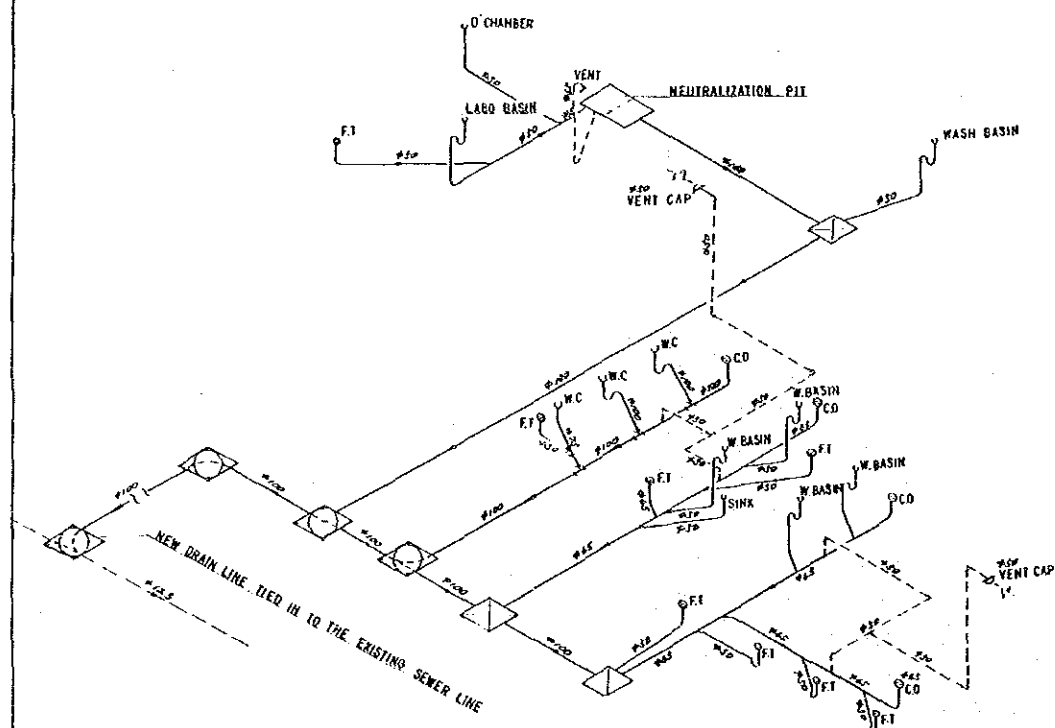
DATE: 13-JUL-87 SCALE: 1:100

DRAWING NO.: SAJ-304-M104

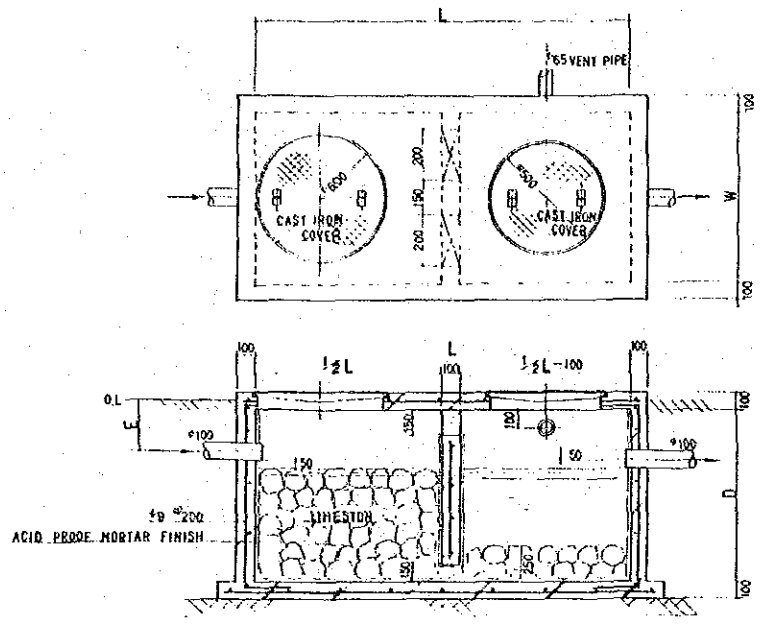
JAPAN INTERNATIONAL COOPERATION AGENCY



WATER PIPING SCHEMATIC DIAGRAM



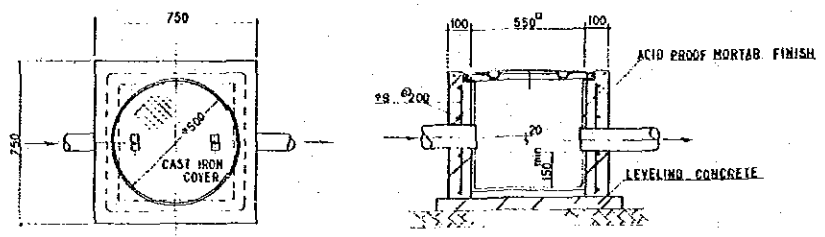
SOIL AND WASTE DRAIN PIPING SCHEMATIC DIAGRAM



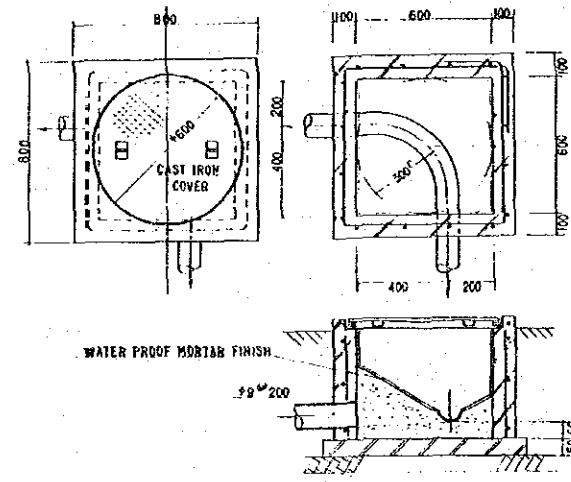
DETAILED NEUTRALIZATION PIT

DIMENSION OF NEUTRALIZATION PIT

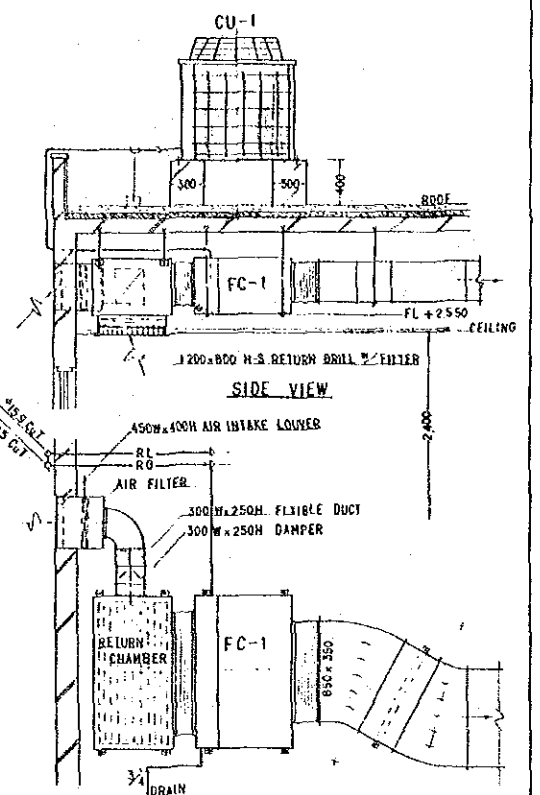
No	LOCATION	L	W	D	E
(A)	LABORATORY BUILDING	2,000	1,200	1,300	350
(B)	-DITTO-	2,000	1,000	1,200	350
(C)	TEST PLANT BUILDING	1,500	780	850	250



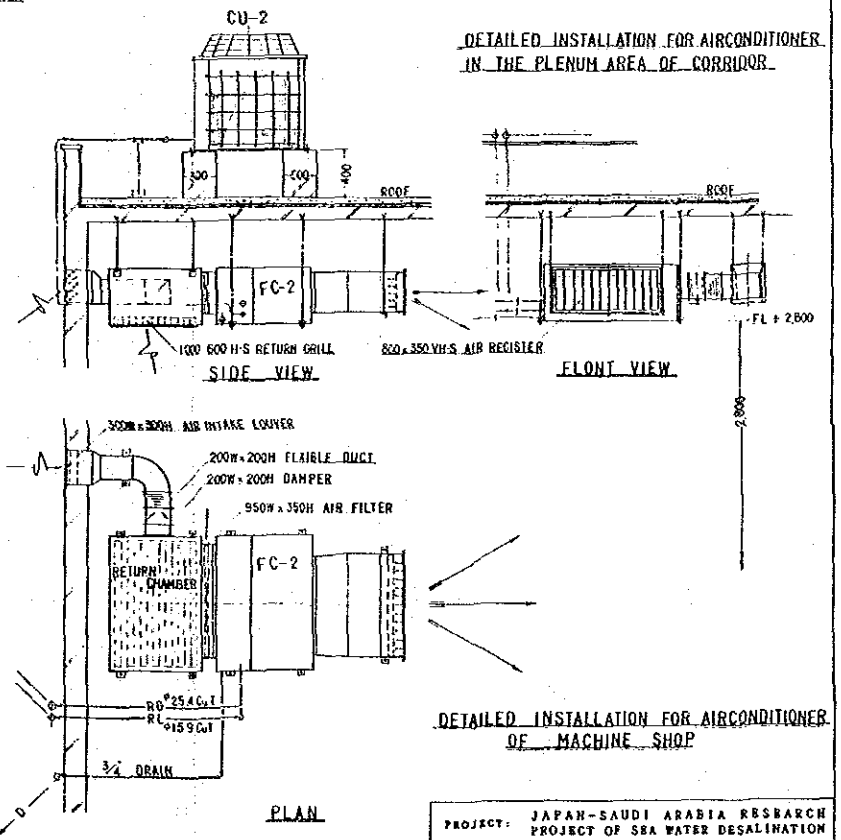
DETAILED MANHALL FOR CHEMICAL AND WASTE DRAIN



DETAILED MANHALL FOR SOIL DRAIN WITH INVERT



DETAILED INSTALLATION FOR AIRCONDITIONER IN THE PLENUM AREA OF CORRIDOR



DETAILED INSTALLATION FOR AIRCONDITIONER OF MACHINE SHOP

PROJECT: JAPAN-SAUDI ARABIA RESEARCH PROJECT OF SEA WATER DESALINATION

TEST PLANT BUILDING

TITLE: SCHEMATIC DIAGRAM OF PLUMBING AND DETAILED FACILITIES

DATE: 27-JUL-87 SCALE:

DRAWING NO.: SAJ-304-M105

JAPAN INTERNATIONAL COOPERATION AGENCY

ELECTRICAL DRAWINGS

SAJ 304 - E002	SYMBOL LIST	
SAJ 304 - E003	ONE LINE DIAGRAM	(LABORATORY BUILDING)
SAJ 304 - E004	SOCKET OUTLET AND GROUNDING LAYOUT	(LABORATORY BUILDING GF)
SAJ 304 - E005	SOCKET OUTLET AND GROUNDING LAYOUT	(LABORATORY BUILDING 1F)
SAJ 304 - E102	ONE LINE DIAGRAM	(TEST PLANT BUILDING)
SAJ 304 - E103	SOCKET OUTLET AND GROUNDING LAYOUT	(TEST PLANT BUILDING)
SAJ 304 - E104	LIGHTING LAYOUT	(TEST PLANT BUILDING)
SAJ 304 - E105	TELEPHONE AND PUBLIC ADDRESS SYSTEM LAYOUT	(TEST PLANT BUILDING)
SAJ 304 - E201	LIGHTING LAYOUT MODIFICATION WORK	(TEST PLANT BUILDING)

ONE LINE DIAGRAM

SYMBOLS	DESCRIPTION
	MOLDED CASE CIRCUIT BREAKER
	MAGNETIC CONTACTOR
	CABLE HEAD
	TRANSFORMER
	AUTOMATIC SWITCHING DEVICE

SOCKET OUTLET AND GROUNDING

	SOCKET OUTLET (DUPLIX)
	TERMINAL BOX
	TUMBLER SWITCH
	PILOT LAMP
	POWER DISTRIBUTION PANEL
	WIRING RISING
	WIRING GOING DOWN
	CABLE TRAY WIRING
	UNDERGROUND OR EMBEDDED WIRING
	GROUNDING BUS WIRING
	BRANCH CONNECTION

LIGHTING

SYMBOLS	DESCRIPTION
	CEILING-MOUNTED FIXTURE WITH ONE 250 WATT MERCURY VAPOR LIGHT. THE LIGHTING FIXTURE SHALL BE OF THE MODEL THORN EMI LIGHTING-DNA 250W OR EQUIVALENT.
	FLUORESCENT FIXTURE 2x40 WATTS FLUSH-MOUNTED IN SUS-PANDED FALSE CEILING WITH A LOUVRE OR ANODIZED ALUMINIUM. THE LIGHTING FIXTURE SHALL BE OF THE MODEL THORN EMI LIGHTING-FRAY 236 OR EQUIVALENT.
	FLUORESCENT FIXTURE WITH VAPOR-LIGHT 2x40 WATTS CEILING MOUNTED. THE LIGHTING FIXTURE SHALL BE OF THE MODEL THORN EMI LIGHT-FNDV 3040 OR EQUIVALENT.
	FLUORESCENT FIXTURE 1x40 WATTS FLUSH-MOUNTED IN SUS-PANDED FALSE CEILING WITH A LOUVRE OF ANODIZED ALUMINIUM. THE LIGHTING FIXTURE SHALL BE OF THE MODEL THORN EMI LIGHT-FNDV 3040 OR EQUIVALENT.
	FLUORESCENT FIXTURE 1x40 WATT CEILING MOUNTED. THE LIGHTING FIXTURE SHALL BE OF THE MODEL THORN EMI LIGHT-FCLV 36 OR EQUIVALENT.
	FLUORESCENT FIXTURE WITH VAPOR-LIGHT 1x40 WATTS CEILING AND/OR WALL MOUNTED. THE LIGHTING FIXTURE SHALL BE OF THE MODEL THORN EMI LIGHT-FNDV 3040 OR EQUIVALENT.
	OUT DOOR FIXTURE WITH A 20 WATTS FLUORESCENT TUBE AND ACRYLIC OPAL DIFFUSER. THE LIGHTING FIXTURE SHALL BE OF THE MODEL THORN EMI LIGHTING-LUY 118 OR EQUIVALENT.
	FAN
	VENTILATING FAN
	RECEPTACLE (EMBEDDED)
	" (EXPOSED)
	TUMBLER SWITCH SINGLE POLE
	" THREE WAY
	LIGHTING DISTRIBUTION PANEL
	FULL BOX
	JUNCTION BOX
	CONCEALED WIRING
	EXPOSED WIRING

COMMUNICATION

SYMBOLS	DESCRIPTION
	HAND SET STATION
	TRAMPET TYPED SPEAKER
	CORN SPEAKER
	TELEPHONE OUTLET
	LIGHTING DISTRIBUTION PANEL
	CONCEALED WIRING
	EXPOSED WIRING

CABLE SPECIFICATION

- VV : PVC INSULATED PVC SHEATHED CABLE.
- VVTAZV : PVC INSULATED PVC SHEATHED STEEL TAPE ARMOURD CABLE.
- IV : PVC INSULATED WIRE.
- CPEV : POLYETHYLENE INSULATED PVC SHEATHED TELECOMMUNICATION CABLE.
- CPEVTAZV : POLYETHYLENE INSULATED PVC SHEATHED, STEEL TAPE ARMOURD TELECOMMUNICATION CABLE.

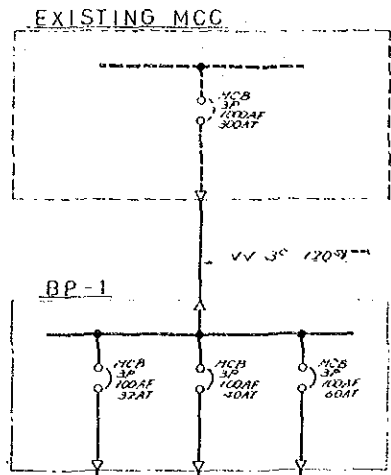
PROJECT: JAPAN-SAUDI ARABIA RESEARCH PROJECT OF SEA WATER DESALINATION

TITLE: SYMBOL LIST

DATE: AUG. '87 SCALE: NONE

DRAWING NO.: SAJ - 304 - E002

JAPAN INTERNATIONAL COOPERATION AGENCY



PP-1

CIRCUIT NO.	DESCRIPTION	MCB	PHASE	VOLTAGE	CAPACITY KW	REMARKS
1	PRECISION CUTTER	3P 32AF 20AT	3	270	1.9	1-15
2	ICP EMISSION SPECTROPHOTOMETER				5.0	2-1
3	X-RAY DIFFRACTOMETER	3P 32AF 20AT	1		6.0	2-3
4	ELECTRON PROB NICKEL ANALYZER				5.0	2-15
5	DRAFT CHAMBER (R-07 POLISHING ROOM)	3P 32AF 20AT			0.75	(S-14)
6	(R-10 PREPARATION)				0.4	(S-15)
7	(R-3 CORROSION INSTRUM)				0.75	(S-14)
8						
9	(R-4 CHEMICAL ANAL. ROOM)					
10						
11	SPARE					
12						

PP-2

CIRCUIT NO.	DESCRIPTION	MCB	PHASE	VOLTAGE	CAPACITY (KW)	REMARKS
1	NET GRINDER & POLISHER	1P 32AF 20AT	1	110	1.5	1-11
2	X-RAY DIFFRACTOMETER	1P 32AF 20AT			1.0	2-3
3	ICP EMISSION SPECTROPHOTOMETER					2-1
4	SIDE BENCH (R-07 POLISHING ROOM)				(1.0)	(S-6)
5-1					(0.5)	
5-2	RECEPTACLE					
6	LITTER TABLE	1P 32AF 20AT			(1.0)	(S-7)
7	SIDE BENCH (R-08 X-RAY ROOM)					(S-7)
8	(R-09 DARK ROOM)					(S-8)
9-1	RECEPTACLE				(0.3)	
9-2						
9-3						
10	SIDE BENCH (R-10 PREPARATION)	1P 32AF 20AT			(1.0)	(S-8)
11						
12-1	(R-05 INST. ANAL. ROOM)				(0.5)	(S-7)
12-2	RECEPTACLE					
13	SIDE BENCH	1P 32AF 20AT			(1.0)	(S-7)
14						
15	CENTER TABLE					(S-1)
16	SIDE BENCH (MICRO. ANAL. ROOM)					(S-7)
17-1	RECEPTACLE				(0.5)	
17-2						
18	SIDE BENCH (R-12 E.P.H.A)	1P 32AF 20AT			(1.0)	(S-7)
19-1	RECEPTACLE (R-07 POLISHING ROOM)				(0.5)	(S-18)
19-2						
20	SPARE	1P 32AF 20AT				
21						
22						
23						

PP-3

CIRCUIT NO.	DESCRIPTION	MCB	PHASE	VOLTAGE	CAPACITY KW	REMARKS
1	SCALE DEPOSITION TESTING EQUIPMENT	1P 32AF 20AT	1	110	1.0	2-9
2						
3	CONSTANT TEMPERATURE BATH	1P 32AF 20AT			2.05	3-20
4	WATER PURIFICATION APPARATUS				1.5	3-4
5	DRYING OVEN FOR GRASS MARE	1P 32AF 20AT			1.2	3-5
6	DRYING OVEN FOR CHEMICALS	1P 32AF 20AT			1.8	3-6
7	MUFFLE FURNACE					3-7
8	CONSTANT TEMPERATURE BATH				2.05	3-20
9-1	SIDE BENCH (CORROSION TEST ROOM)	1P 32AF 20AT			(0.5)	(S-6)
9-2						
10-1	RECEPTACLE	1P 32AF 20AT			(0.3)	
10-2						
10-3						
11	CENTER TABLE	1P 32AF 20AT			(1.0)	(S-1)
12						(S-2)
13						
14						
15-1	RECEPTACLE (CHEMICAL ANAL. ROOM)				(0.5)	
15-2						
16	CENTER TABLE	1P 32AF 20AT			(1.0)	(S-2)
17						
18						
19-1	RECEPTACLE				(0.3)	
19-2						
19-3						
20-1	SIDE BENCH	1P 32AF 20AT			(0.5)	(S-6)
20-2						
21	SPARE	1P 32AF 20AT				
22						
23						
24						

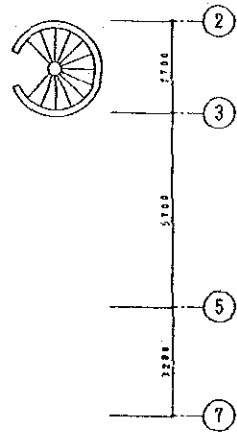
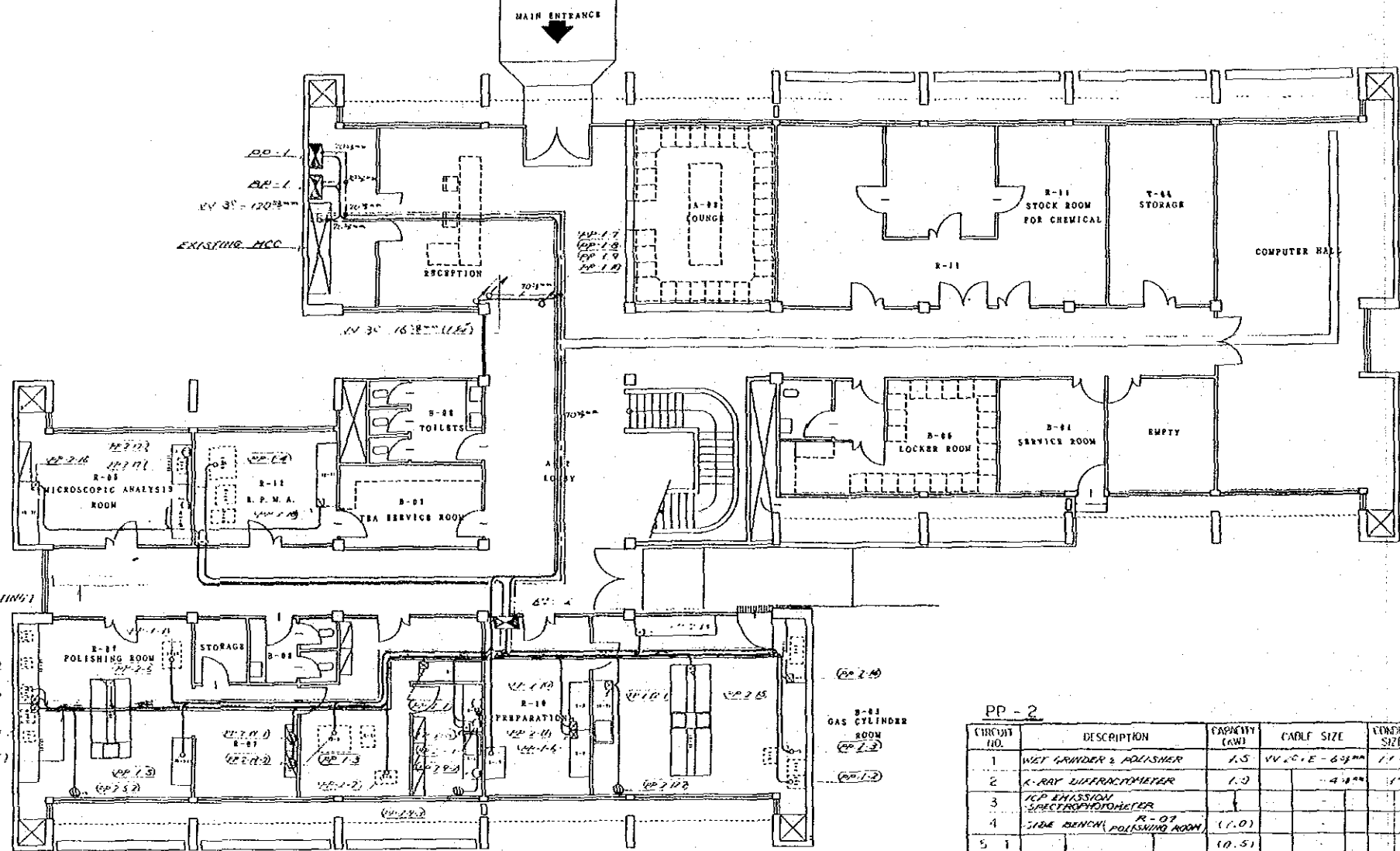
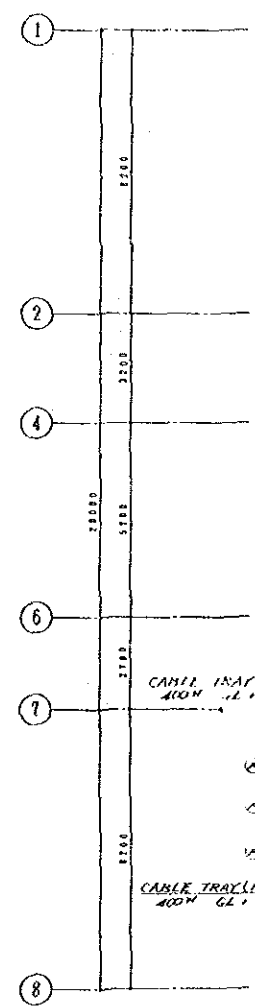
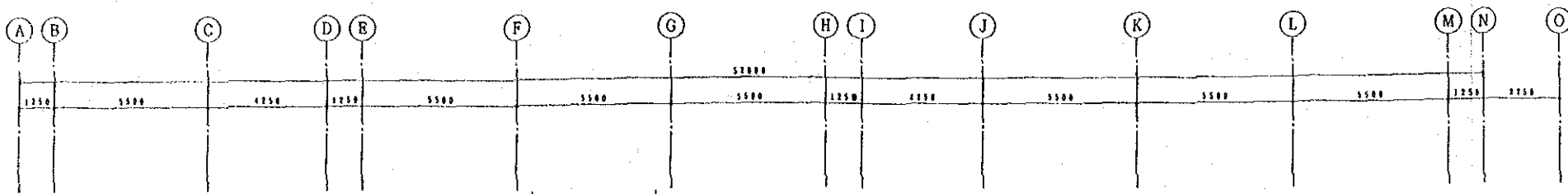
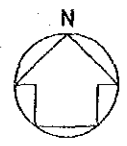
PROJECT: JAPAN-SAUDI ARABIA RESEARCH PROJECT OF SEA WATER DESALINATION

TITLE: ONE LINE DIAGRAM (LABORATORY BUILDING)

DATE: AUG. '97 SCALE: NONE

DRAWING NO.: SAJ-304-E003

JAPAN INTERNATIONAL COOPERATION AGENCY



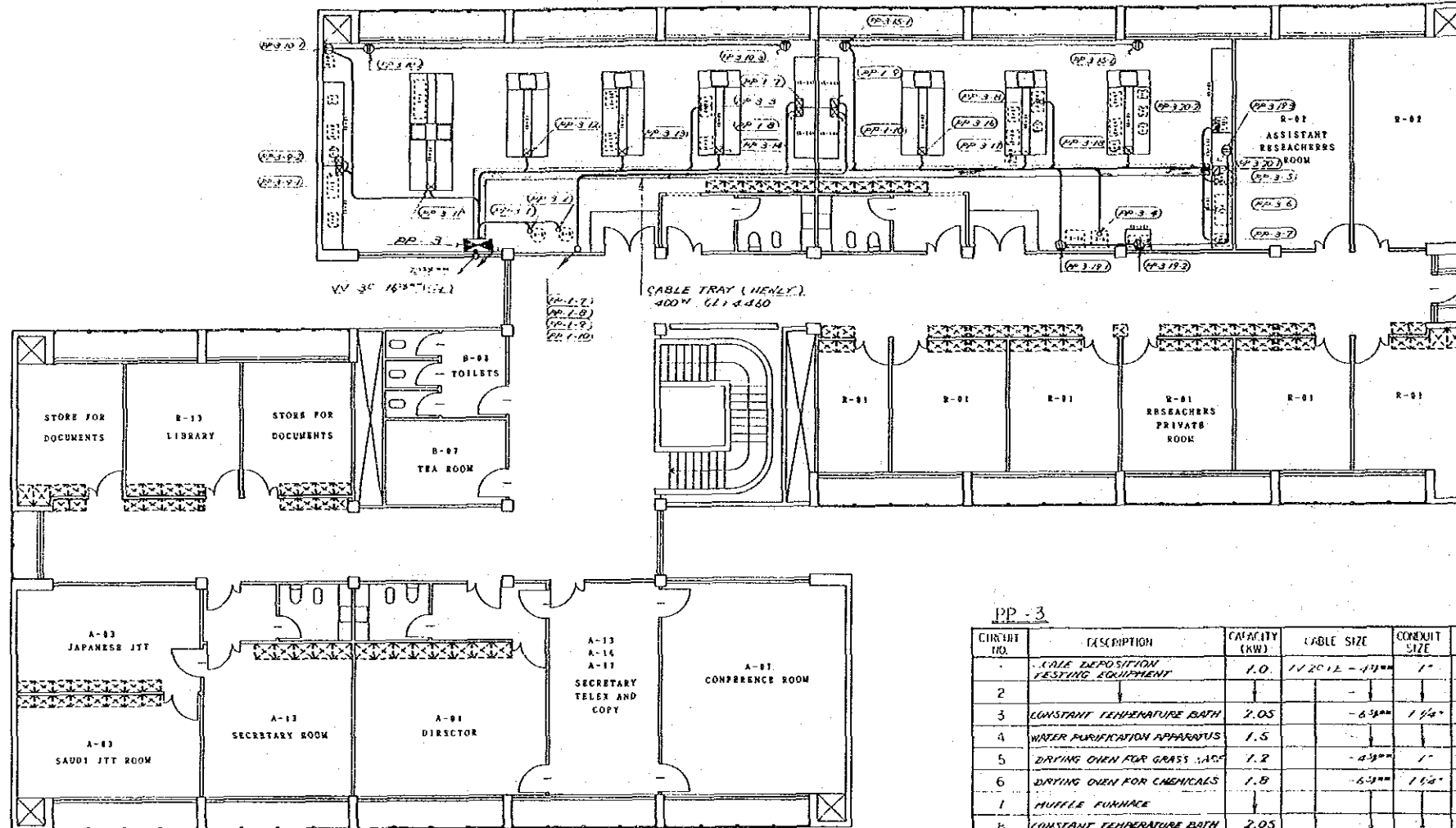
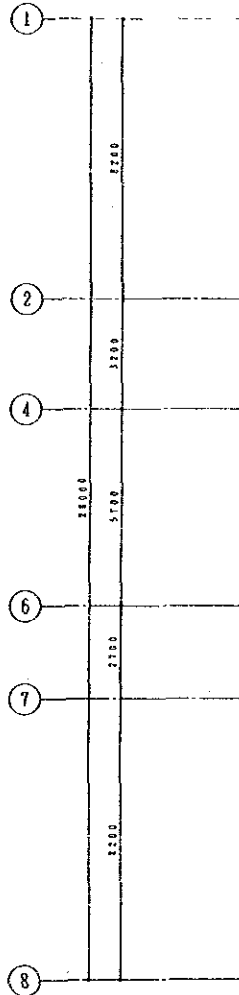
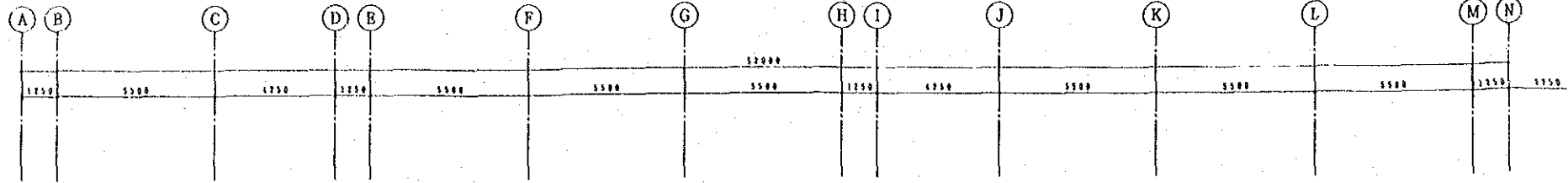
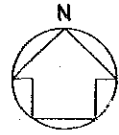
PP - 1

CIRCUIT NO.	DESCRIPTION	CAPACITY (KW)	TABLE SIZE	CONDUIT SIZE	REMARKS
1	PRECISION CUTTER	1.9	VV 5' x E - 4 1/2"	1"	
2	ICP EMISSION SPECTROPHOTOMETER	5.0	11 1/2" x 1 1/2"		
3	X-RAY DIFFRACTOMETER	6.0	1 1/2" x 1 1/2"		
4	ELECTRON PROB MICRO ANALYZER	5.0			
5	DRAFT GRINDER (POLISHING ROOM)	0.75	4 1/2" x 1"		
6	(POLISHING ROOM)	0.4			
7	(CORROSION TEST ROOM)	0.75			
8					
9	(CHEMICAL ANAL. ROOM)				
10					

PP - 2

CIRCUIT NO.	DESCRIPTION	CAPACITY (KW)	CABLE SIZE	CONDUIT SIZE	REMARKS
1	WET GRINDER & POLISHER	1.5	VV 2" x E - 6 1/2"	1 1/4"	
2	X-RAY DIFFRACTOMETER	1.0	4 1/2" x 1"		
3	ICP EMISSION SPECTROPHOTOMETER				
4	SIDE BENCH (POLISHING ROOM)	(1.0)			
5-1		(0.5)			
5-2	RECEPTACLE				
6	CENTER TABLE	(1.0)			
7	SIDE BENCH (POLISHING ROOM)				
8	(DARK ROOM)				
9-1	RECEPTACLE	(0.3)			
9-2					
9-3					
10	SIDE BENCH (PREPARATION)	(1.0)			
11					
12-1	(MICRO ANAL. ROOM)	(0.5)			
12-2	RECEPTACLE				
13	SIDE BENCH	(1.0)			
14					
15	CENTER TABLE				
16	SIDE BENCH (MICRO ANAL. ROOM)				
17-1	RECEPTACLE	(0.5)			
17-2					
18	SIDE BENCH (E.P.M.A.)	(1.0)			
19-1	RECEPTACLE (POLISHING ROOM)	(0.5)			
19-2					

PROJECT: JAPAN-SAUDI ARABIA RESEARCH PROJECT OF SEA WATER DESALINATION
 TITLE: SOCKET OUTLET AND GROUNDING LAYOUT (LABORATORY BUILDING GF.)
 DATE: MAR '87 SCALE: 1/100
 DRAWING NO.: SAJ-304-E004
 JAPAN INTERNATIONAL COOPERATION AGENCY



PP-3

CIRCUIT NO.	DESCRIPTION	CAPACITY (KW)	CABLE SIZE	CONDUIT SIZE	REMARKS
1	CABLE DEPOSITION TESTING EQUIPMENT	1.0	1/2012-43mm	1"	
2					
3	CONSTANT TEMPERATURE BATH	2.05	-6.5mm	1 1/2"	
4	WATER PURIFICATION APPARATUS	1.5			
5	DRYING OVEN FOR GRASS SAMPLE	1.2	-4.5mm	1"	
6	DRYING OVEN FOR CHEMICALS	1.8	-6.5mm	1 1/2"	
7	MUFFLE FURNACE				
8	CONSTANT TEMPERATURE BATH	2.05			
9-1	SIDE BENCH (R-03) (CHEMICAL ANALYSIS)	(0.5)	-4.5mm	1"	
9-2					
10-1	RECEPTACLE	(0.3)			
10-2					
10-3					
11	CENTER TABLE	(1.0)			
12					
13					
14					
15-1	RECEPTACLE (R-04) (CHEMICAL ANALYSIS)	(0.5)			
15-2					
16	CENTER TABLE	(1.0)			
17					
18					
19-1	RECEPTACLE	(0.3)			
19-2					
19-3					
20-1	SIDE BENCH	(0.5)			
20-2					

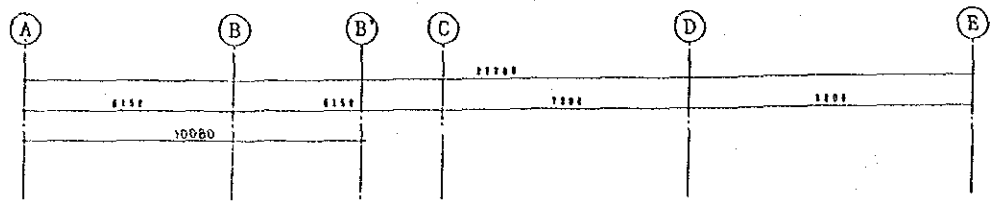
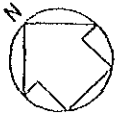
PROJECT: JAPAN-SAUDI ARABIA RESEARCH PROJECT OF SEA WATER DESALINATION

TITLE: SOCKET OUTLET AND GROUNDING LAYOUT (LABORATORY BUILDING 1F)

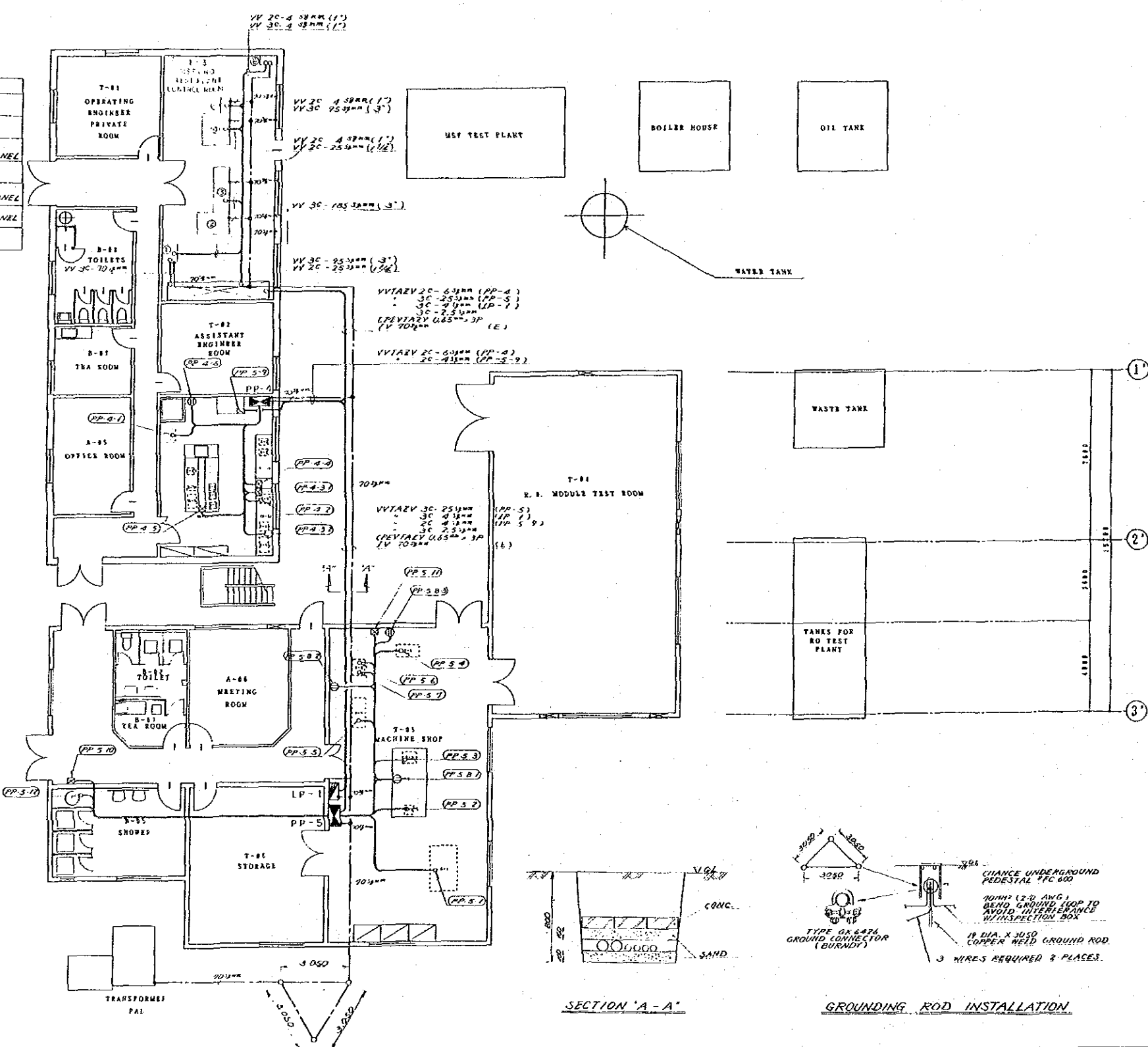
DATE: AUG '87 SCALE: 1/100

DRAWING NO.: SAJ-304-E005

JAPAN INTERNATIONAL COOPERATION AGENCY



NO.	ITEM
①	1R SOXVA
②	MSF PLANT CONTROL PANEL
③	MSF PLANT MOTOR CONTROL PANEL
④	MSF PLANT CONTROL PANEL
⑤	MSF PLANT MOTOR CONTROL PANEL
⑥	TRANSFER PUMP PANEL

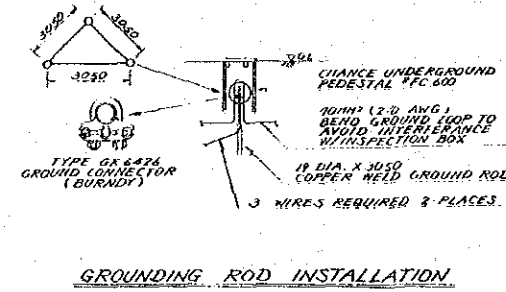
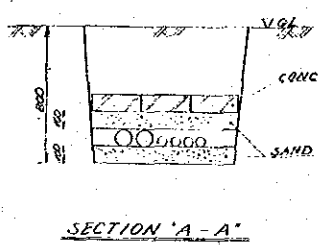


PP-4

CIRCUIT NO.	DESCRIPTION	CAPACITY (KW)	CABLE SIZE	CONDUIT SIZE	REMARKS
1	WATER PURIFICATION APPARATUS	1.5	1V 4.5mm ² 2+E	1"	
2	DRYING OVEN FOR GLASSWARE	1.2			
3-1	SIDE BENCH	(0.8)			
3-2	RECEPTACLE	(0.2)			
4	SIDE BENCH	(1.0)			
5	CENTER TABLE				
6	RECEPTACLE				

PP-5

CIRCUIT NO.	DESCRIPTION	CAPACITY (KW)	CABLE SIZE	CONDUIT SIZE	REMARKS
1	PRECISION LATHE	5.5	1V 10.5mm ² 3+E	1 1/4"	
2	BENCH DRILLING	0.4	1V 4.5mm ² 3+E	1"	
3	ELECTRIC BENCH GRINDER	1.77			
4	CUTTER	2.2			
5	HACK SAWING MACHINE	1.5			
6	BAND SAWING MACHINE				
7		2.0	1V 4.5mm ² 2+E		
8-1	RECEPTACLE	(0.3)			
8-2					
8-3					
9	DRAFT CHANGER (MECHANICAL PARTS)	0.4	1V 4.5mm ² 2+E		
10	JUNCTION BOX FOR AIRCONDITIONING UNIT	8.6	1V 10.5mm ² 3+E		
11		6.2		1 1/4"	
12	BOILER	5.0			



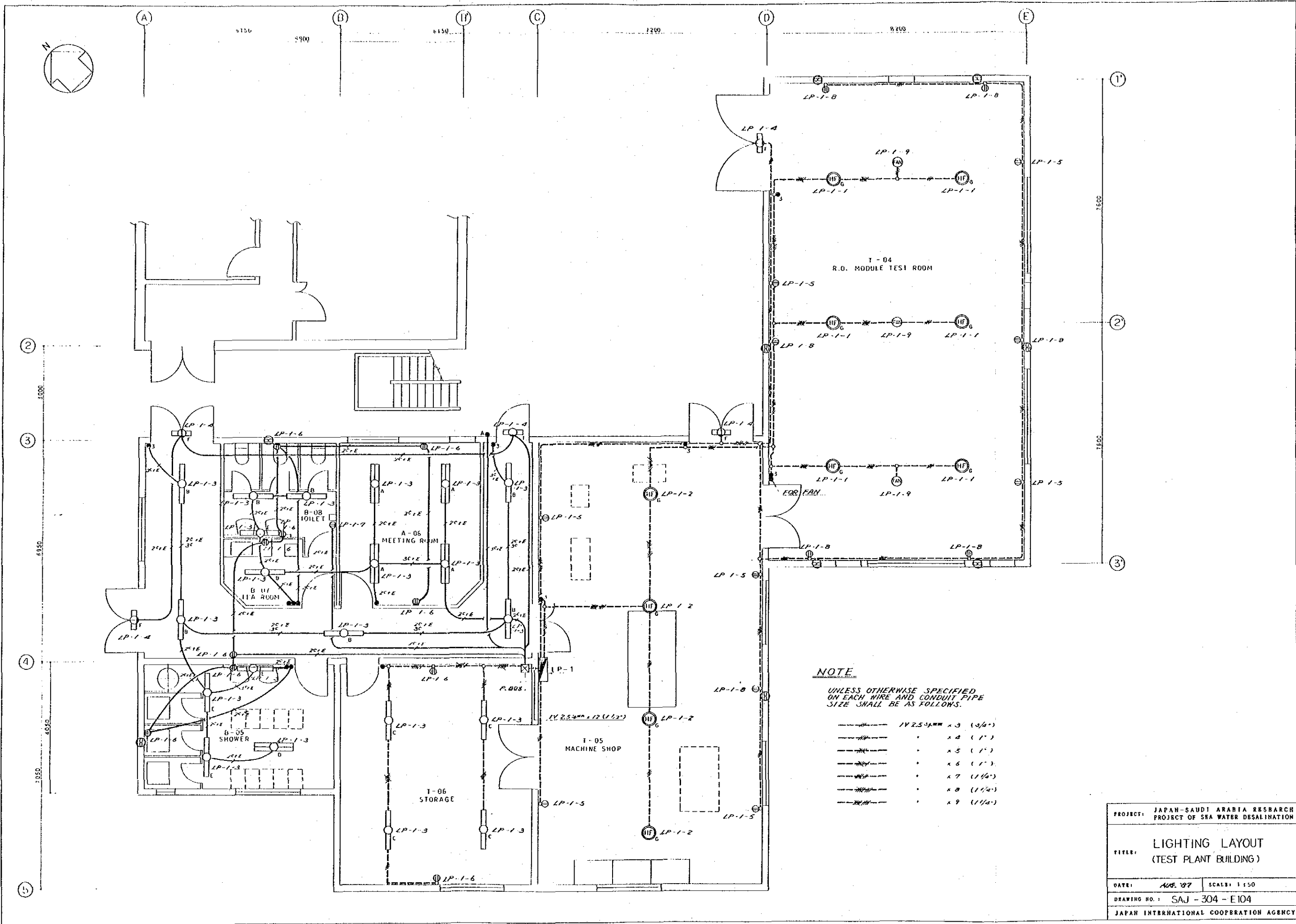
PROJECT: JAPAN-SAUDI ARABIA RESEARCH PROJECT OF SEA WATER DESALINATION

TITLE: SOCKET OUTLET AND GROUNDING LAYOUT (TEST PLANT BUILDING)

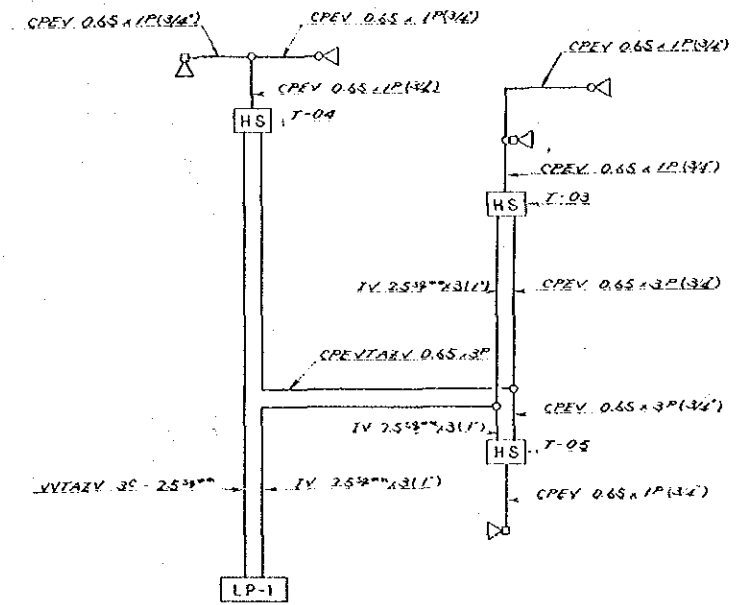
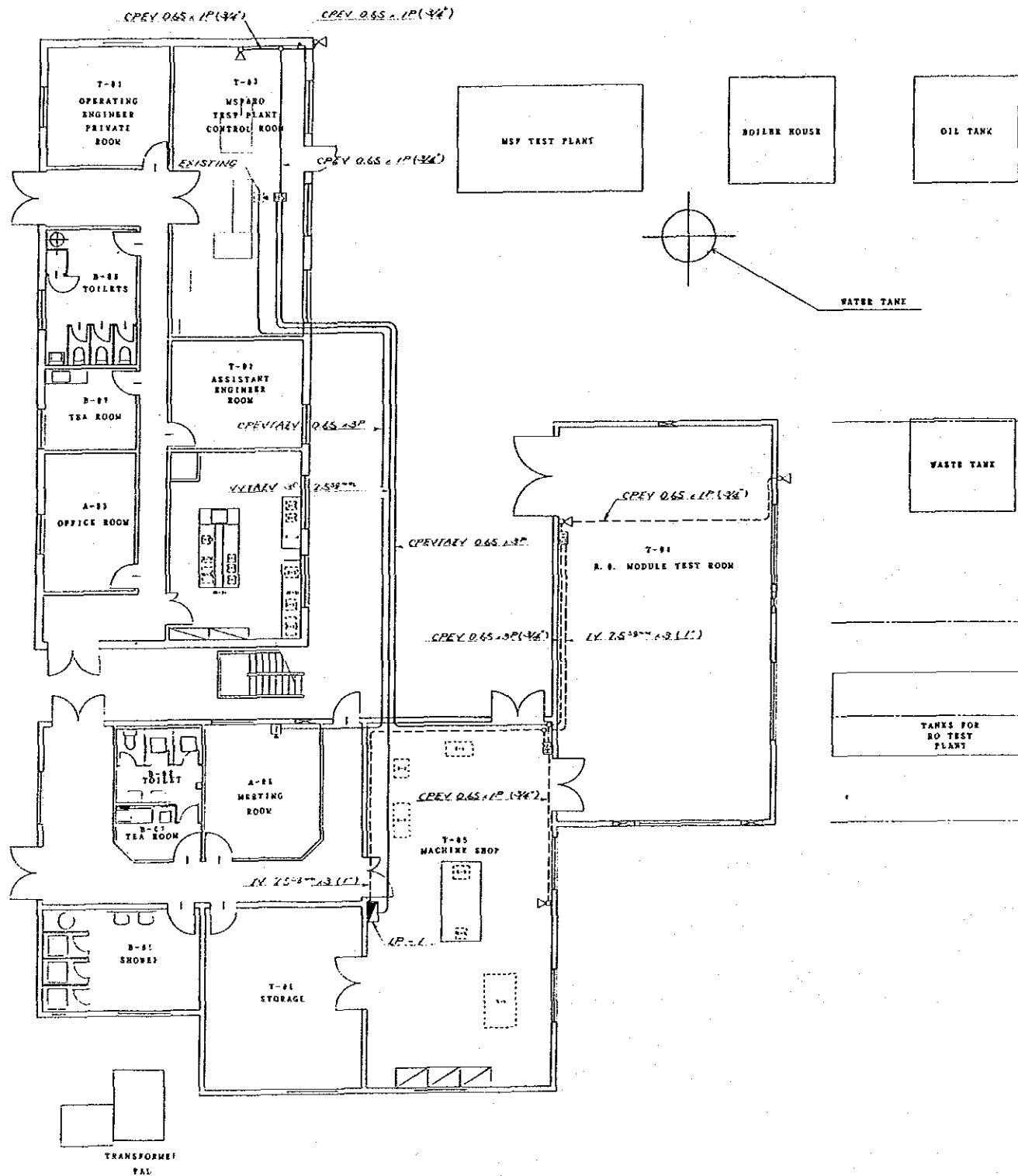
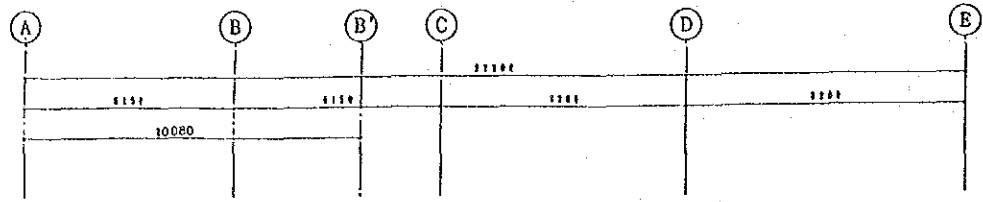
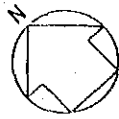
DATE: AUG. '87 SCALE: 1/100

DRAWING NO.: SAJ-304-E103

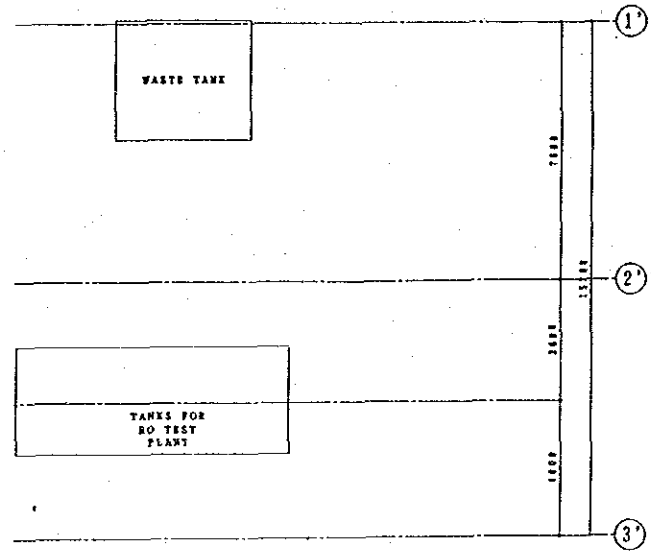
JAPAN INTERNATIONAL COOPERATION AGENCY



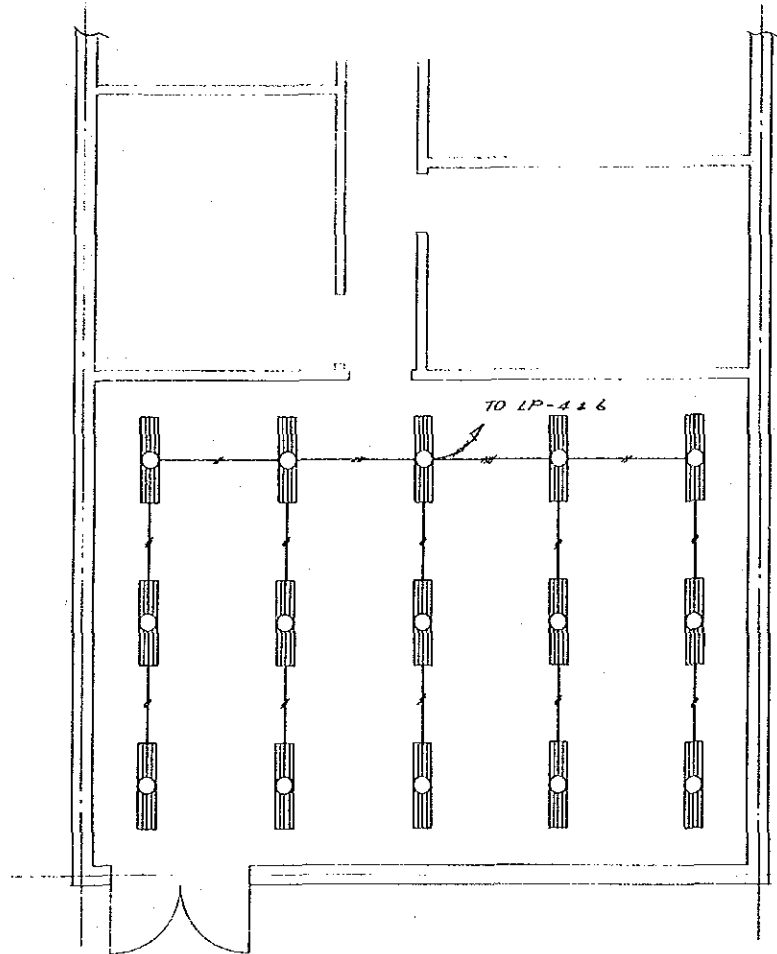
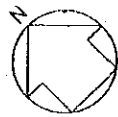
PROJECT:	JAPAN-SAUDI ARABIA RESEARCH PROJECT OF SEA WATER DESALINATION	
TITLE:	LIGHTING LAYOUT (TEST PLANT BUILDING)	
DATE:	NOV. 87	SCALE: 1:50
DRAWING NO.:	SAJ-304-E104	
JAPAN INTERNATIONAL COOPERATION AGENCY		



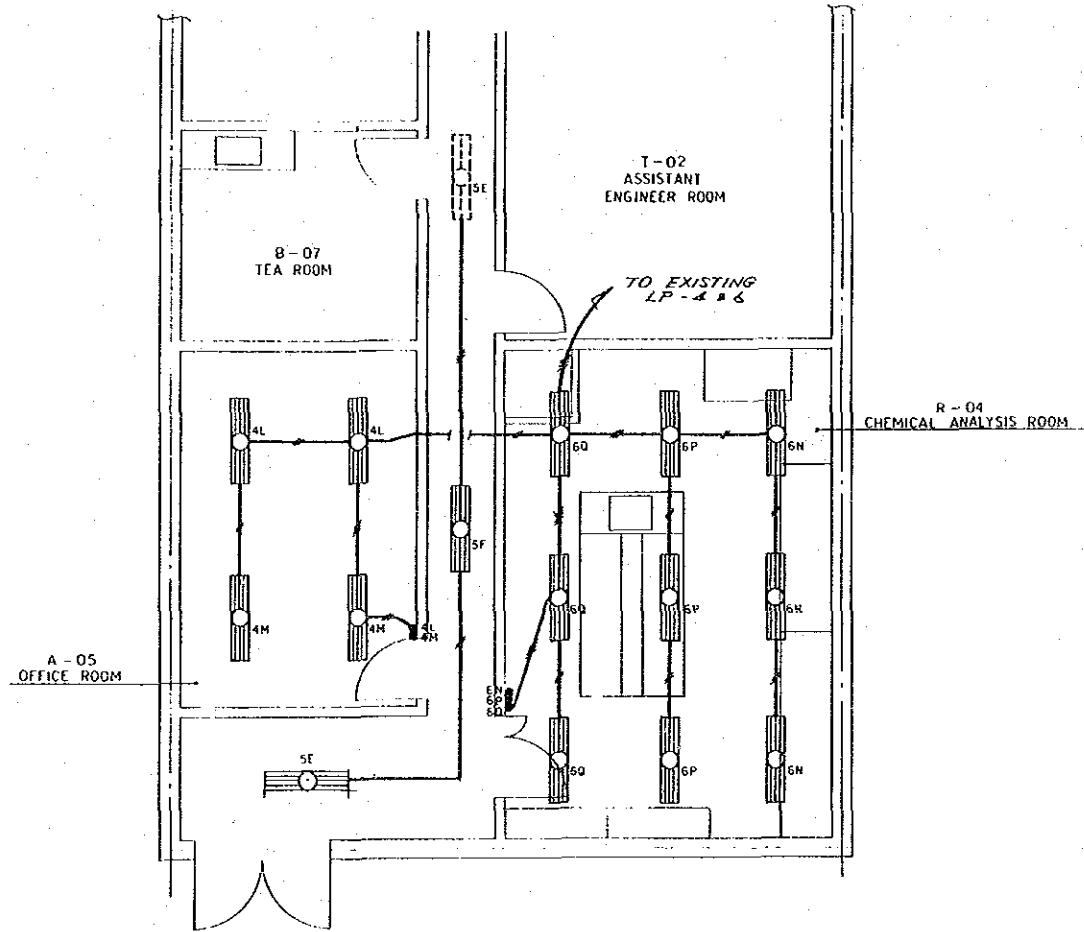
DIAGRAM



PROJECT:	JAPAN-SAUDI ARABIA RESEARCH PROJECT OF SEA WATER DESALINATION	
TITLE:	TELEPHONE AND PUBLIC ADDRESS SYSTEM LAYOUT (TEST PLANT BUILDING)	
DATE:	AUG. '87	SCALE: 1/100
DRAWING NO.:	SAJ-304-E105	
JAPAN INTERNATIONAL COOPERATION AGENCY		



EXISTING



NEWLY

NOTE

FLUORESCENT LIGHT 4' x 40 WATTS
FLASH-MOUNTED TYPE

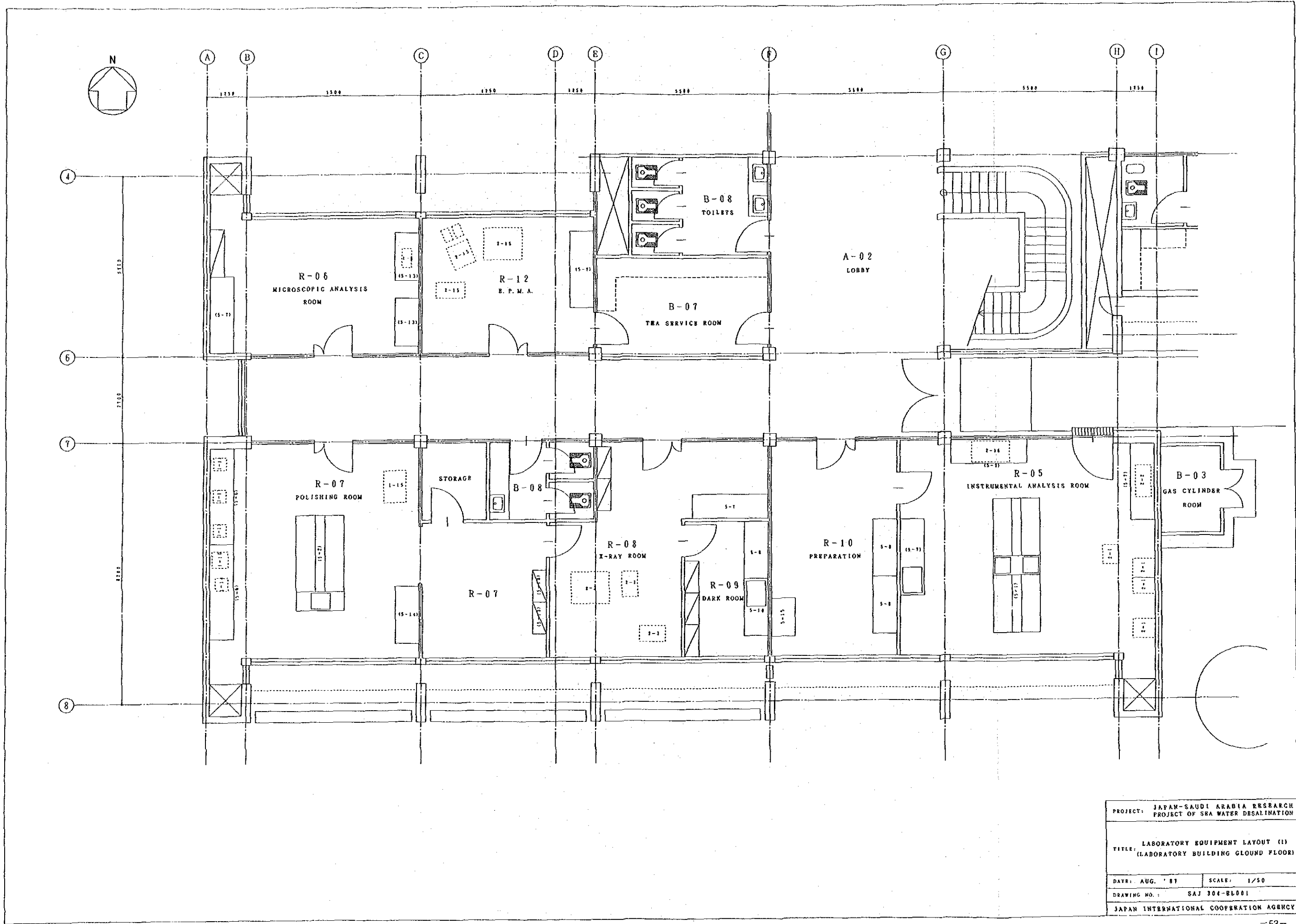
UNLESS OTHERWISE SPECIFIED
ON EACH WIRE AND CONDUIT PIPE SIZE
SHALL BE AS FOLLOWS.

- 1/2" x 2 + 2 (1')
- 3/4" x 3 + (1')
- 1" x 4 + (1')
- 1 1/2" x 5 + (1')

PROJECT: JAPAN-SAUDI ARABIA RESEARCH PROJECT OF SBA WATER DESALINATION	
LIGHTING LAYOUT MODIFICATION WORK (TEST PLANT BUILDING)	
DATE: AUG. '87	SCALE: 1/50
DRAWING NO.: SAJ-304-E201	
JAPAN INTERNATIONAL COOPERATION AGENCY	

LABORATORY EQUIPMENT LAYOUT DRAWINGS

SAJ 304 - EL001	LABORATORY EQUIPMENT LAYOUT	(1)
SAJ 304 - EL002	LABORATORY EQUIPMENT LAYOUT	(2)
SAJ 304 - EL003	LABORATORY EQUIPMENT LAYOUT	(3)
SAJ 304 - EL004	LABORATORY EQUIPMENT LAYOUT	(4)



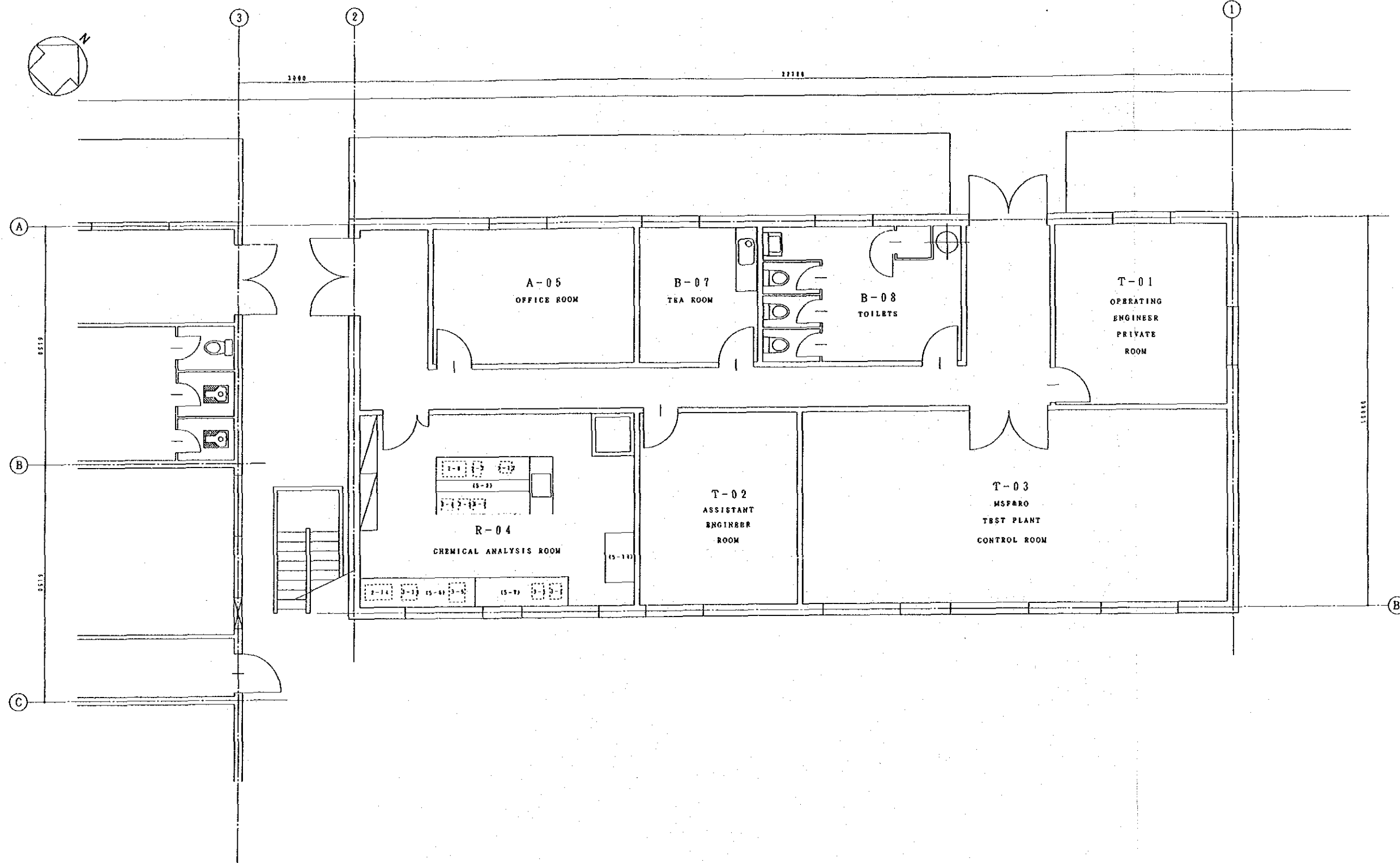
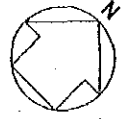
PROJECT: JAPAN-SAUDI ARABIA RESEARCH
 PROJECT OF SEA WATER DESALINATION

TITLE: LABORATORY EQUIPMENT LAYOUT (1)
 (LABORATORY BUILDING GROUND FLOOR)

DATE: AUG. '81 SCALE: 1/50

DRAWING NO.: SAJ 304-BL001

JAPAN INTERNATIONAL COOPERATION AGENCY



PROJECT: JAPAN-SAUDI ARABIA RESEARCH PROJECT OF SEA WATER DESALINATION	
TITLE: LABORATORY EQUIPMENT LAYOUT (1) (EXISTING CONTROL ROOM)	
DATE: AUG. '87	SCALE: 1/50
DRAWING NO.: SAJ 304-EL004	
JAPAN INTERNATIONAL COOPERATION AGENCY	

JICA