

REPUBLIC OF BOLIVIA

VIRU VIRU INTERNATIONAL
AIRPORT DEVELOPMENT

FEASIBILITY STUDY

FINAL REPORT

APPENDIX

NOVEMBER 1977

JAPAN INTERNATIONAL COOPERATION AGENCY

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VIRU VIRU INTERNATIONAL AIRPORT DEVELOPMENT

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APPENDIX

國際協力事業団	
論 53. 2. 10	附
全冊No. 6583	冊

NOVEMBER 1977

JAPAN INTERNATIONAL COOPERATION AGENCY

国際協力事業団

受入
月日 '84.5.16

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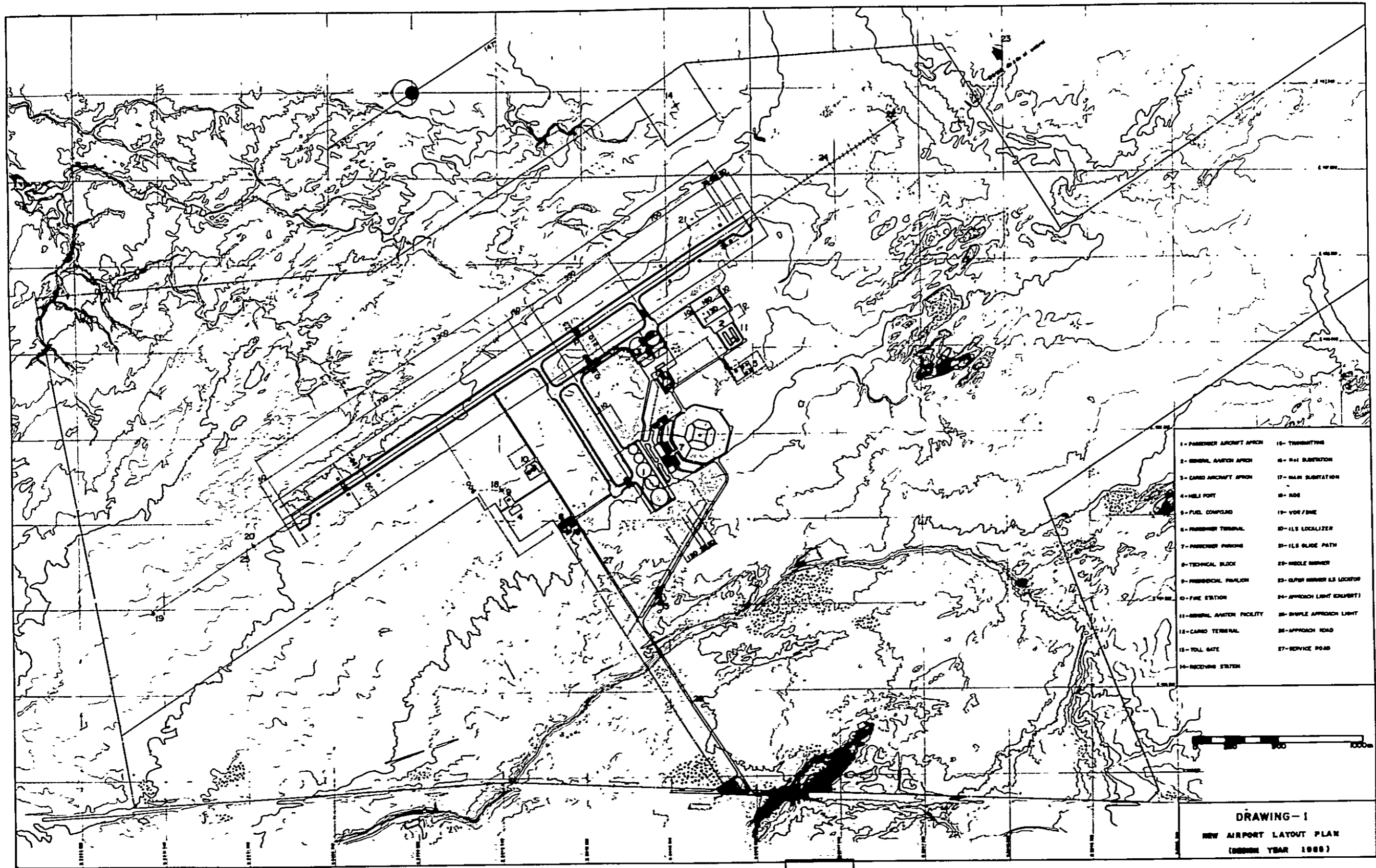
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SDS

APPENDIX

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DRAWING-2	New Airport Layout Plan (Design Year 1990)
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- DRAWING-20 Cable Ducts (Existing Airport - 2000)
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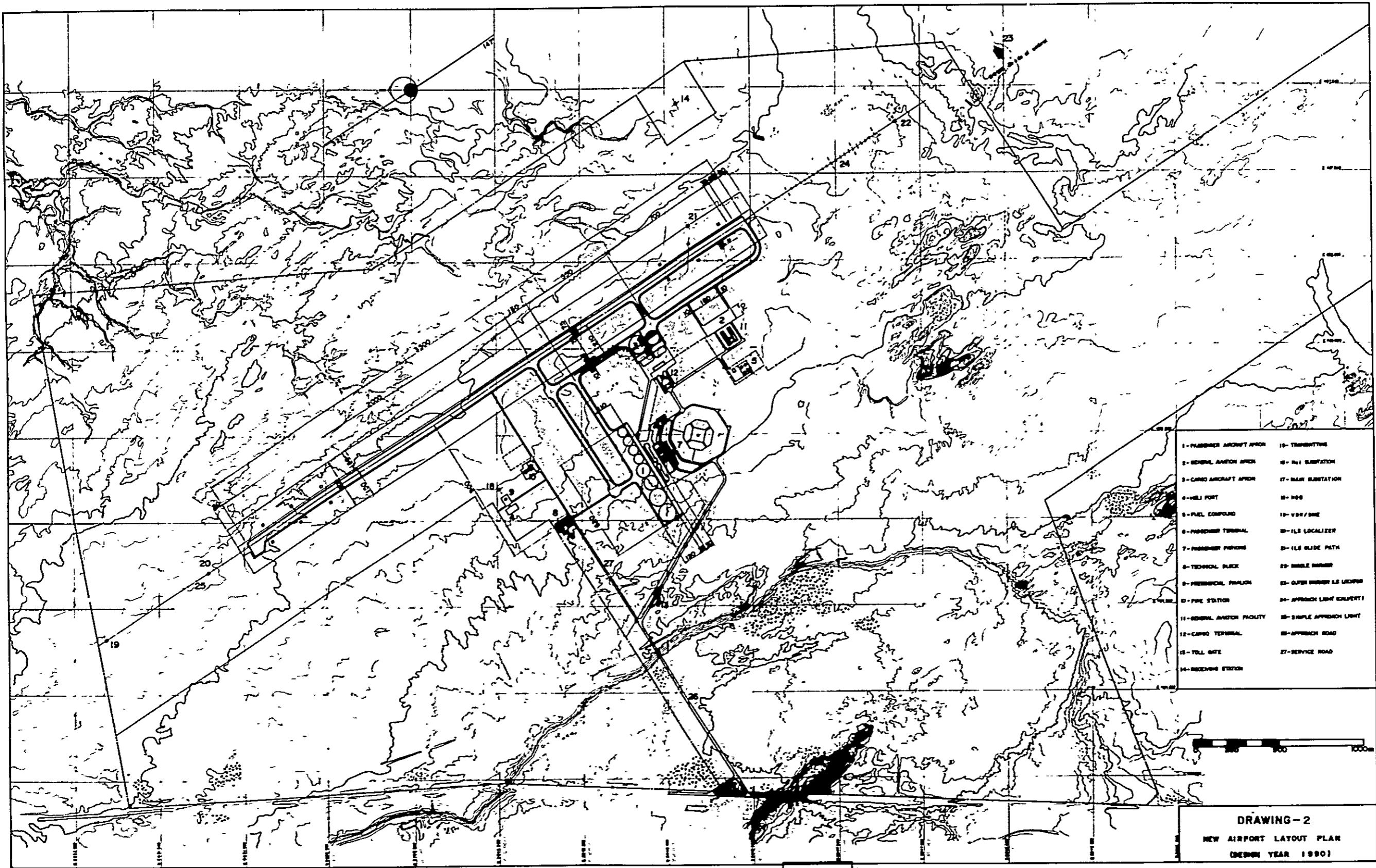


- | | |
|------------------------------|------------------------------|
| 1-PASSENGER AIRCRAFT APRON | 15-TRANSITIVE |
| 2-GENERAL AVIATION APRON | 16-541 SUBSTATION |
| 3-CARGO AIRCRAFT APRON | 17-541 SUBSTATION |
| 4-HELIPORT | 18-ROD |
| 5-FUEL COMPOND | 19-VOR/DME |
| 6-PASSENGER TERMINAL | 20-ILS LOCALIZER |
| 7-PASSENGER PARKING | 21-ILS SLIDE PATH |
| 8-TECHNICAL BLOCK | 22-HELIX MARKER |
| 9-PASSENGER MAILBOX | 23-GLYSER MARKER LS LOCATOR |
| 10-FIRE STATION | 24-APPROACH LIGHT (ENLARGED) |
| 11-GENERAL AVIATION FACILITY | 25-SINGLE APPROACH LIGHT |
| 12-CARGO TERMINAL | 26-APPROACH ROAD |
| 13-TOLL GATE | 27-SERVICE ROAD |
| 14-RECOVER STATION | |



DRAWING-1
NEW AIRPORT LAYOUT PLAN
 (DESIGN YEAR 1968)



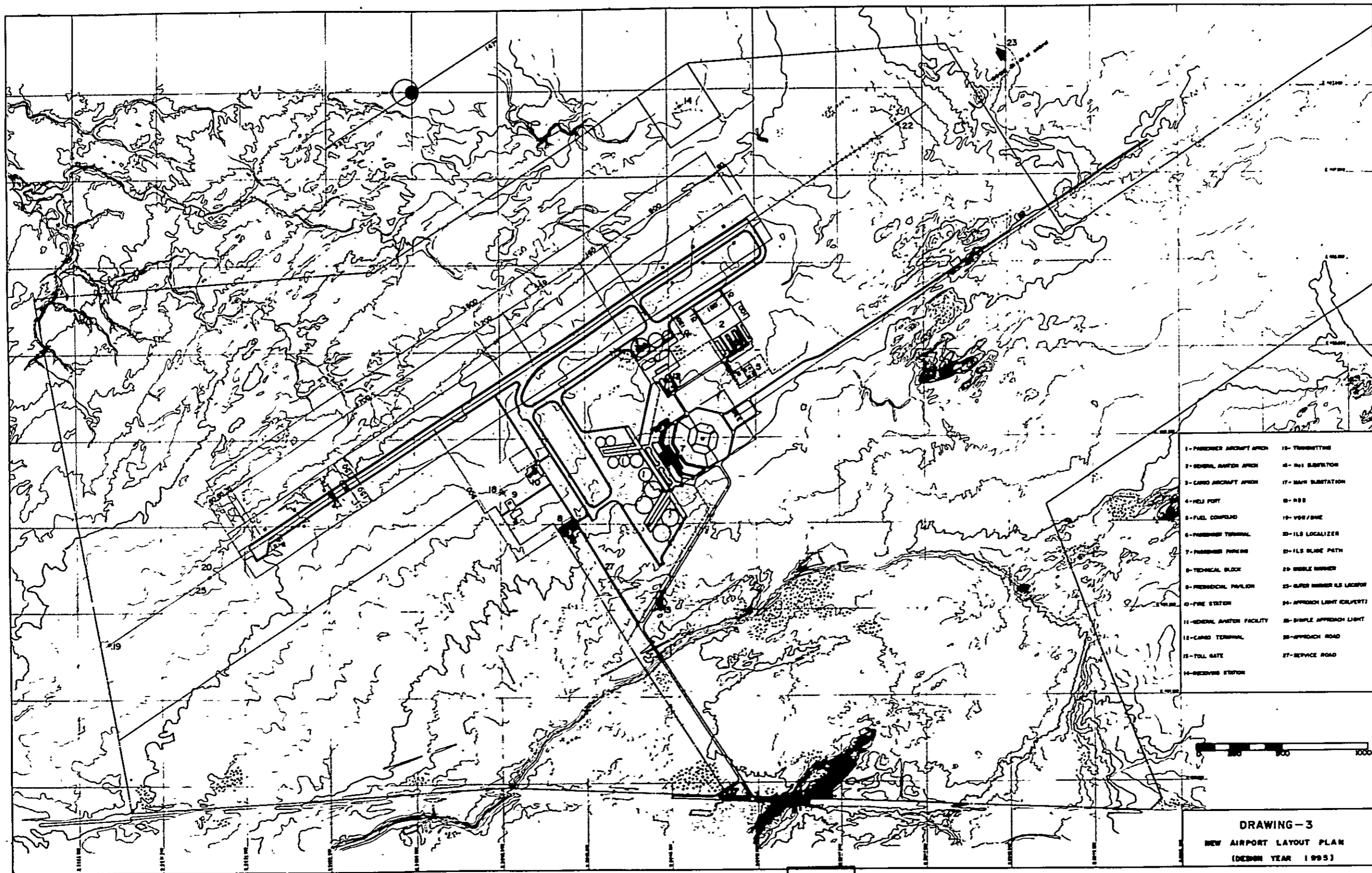


- | | |
|------------------------------|-----------------------------|
| 1-PASSENGER AIRCRAFT APRON | 16-THRESHOLD |
| 2-GENERAL AVIATION APRON | 17-RAIL STATION |
| 3-CARGO AIRCRAFT APRON | 18-RAIL STATION |
| 4-HELIPORT | 19-NDB |
| 5-FUEL COMPOUND | 20-VOR/DME |
| 6-PASSENGER TERMINAL | 21-ILS LOCALIZER |
| 7-PASSENGER PAVING | 22-ILS GLIDE PATH |
| 8-TECHNICAL BLDG | 23-SINGLE RUNWAY |
| 9-OPERATIONAL BUILDING | 24-OUTER RUNWAY LIGHTS |
| 10-FIRE STATION | 25-APPROACH LIGHT (CALVERT) |
| 11-GENERAL AVIATION FACILITY | 26-SIMPLE APPROACH LIGHT |
| 12-CARGO TERMINAL | 27-APPROACH ROAD |
| 13-TOLL GATE | |
| 14-RECEIVING STATION | |



DRAWING-2
NEW AIRPORT LAYOUT PLAN
(DESIGN YEAR 1980)

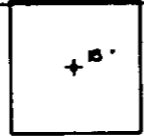


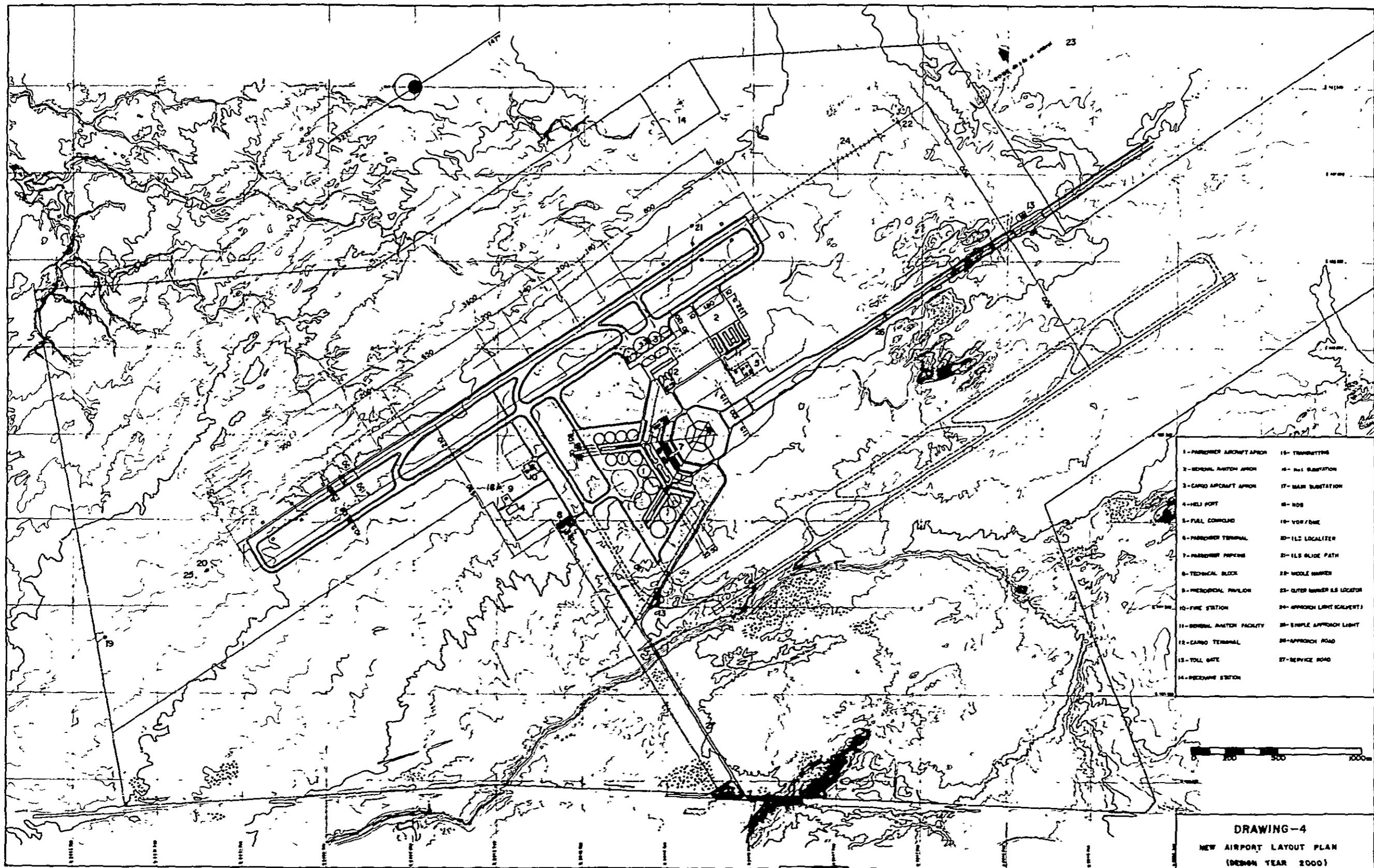


- | | |
|-------------------------------|-------------------------------|
| 1- PASSENGER AIRCRAFT APRON | 15- TRANSMITTING |
| 2- GENERAL AVIATION APRON | 16- NO. 1 SUBSTATION |
| 3- CARO AIRCRAFT APRON | 17- NAVY SUBSTATION |
| 4- HELI PORT | 18- RBB |
| 5- FUEL COMPOUND | 19- VOR/DME |
| 6- PASSENGER TERMINAL | 20- ILS LOCALIZER |
| 7- PASSENGER PARKING | 21- ILS SLIDE PATH |
| 8- TECHNICAL BLOCK | 22- BEBLE MARKER |
| 9- FREIGHTER PAULSON | 23- GOLF MARKER ILS LOCALIZER |
| 10- FIRE STATION | 24- APPROACH LIGHT COLLEPT |
| 11- GENERAL AVIATION FACILITY | 25- SIMPLE APPROACH LIGHT |
| 12- CARO TERMINAL | 26- APPROACH ROAD |
| 13- TOLL GATE | 27- SERVICE ROAD |
| 14- RECEIVING STATION | |



DRAWING-3
NEW AIRPORT LAYOUT PLAN
 (DESIGN YEAR 1953)

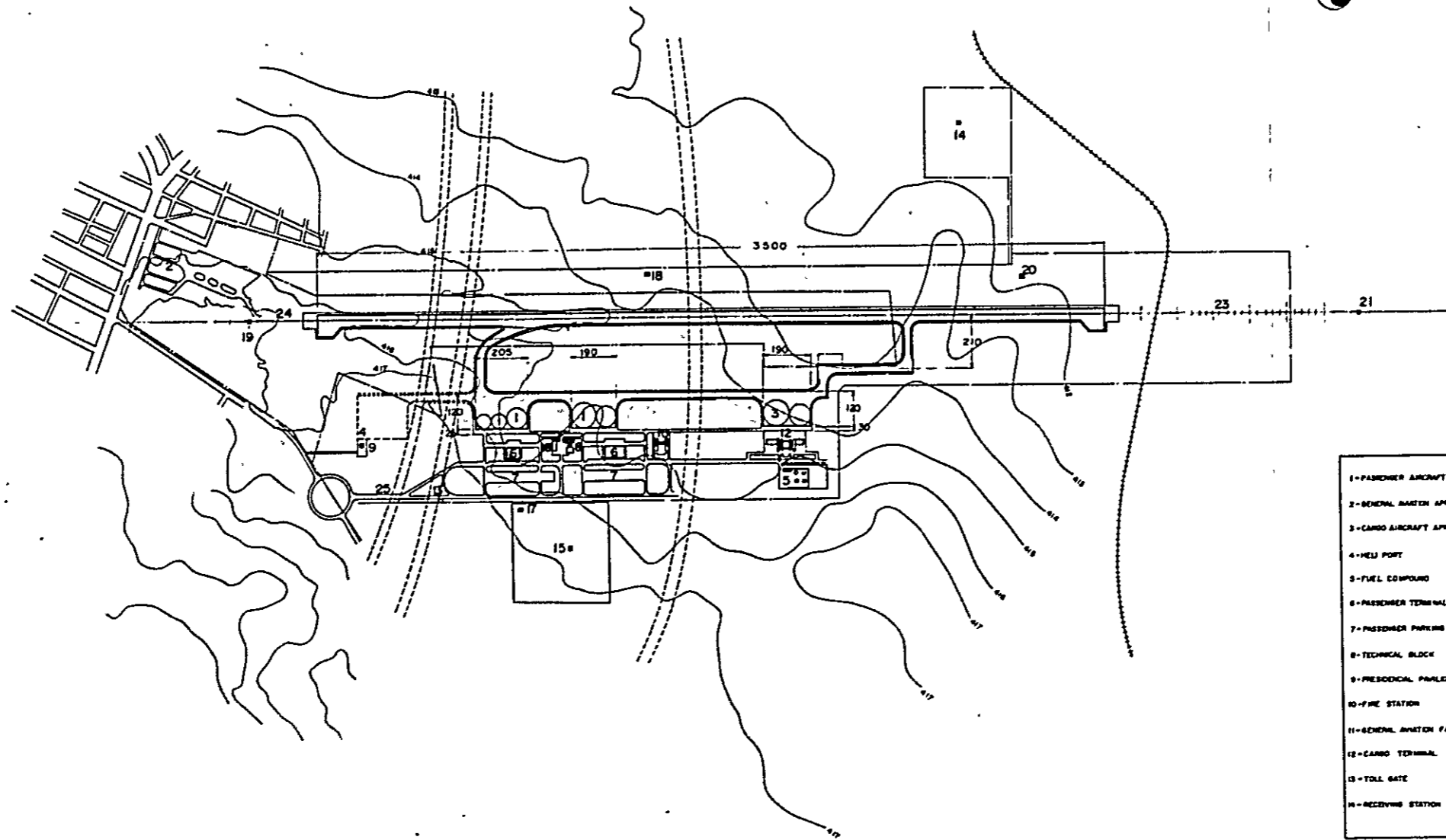




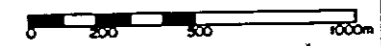
- | | |
|------------------------------|-------------------------------|
| 1-PASSENGER AIRCRAFT APRON | 15-TRANSMITTER |
| 2-GENERAL AVIATION APRON | 16-RAI SUBSTATION |
| 3-CARGO AIRCRAFT APRON | 17-MAIN SUBSTATION |
| 4-HELL PORT | 18-RDS |
| 5-FUEL CONSOLE | 19-VOR/DME |
| 6-PASSENGER TERMINAL | 20-ILS LOCALIZER |
| 7-PASSENGER PARKING | 21-ILS SLIDE PATH |
| 8-TECHNICAL BLOCK | 22-NOISE BARRIER |
| 9-MEDICAL PAVILION | 23-OUTER NUMBER ILS LOCALIZER |
| 10-FIRE STATION | 24-APPROACH LIGHT (CALVERT) |
| 11-GENERAL AVIATION FACILITY | 25-SIMPLE APPROACH LIGHT |
| 12-CARGO TERMINAL | 26-APPROACH ROAD |
| 13-TOLL GATE | 27-SERVICE ROAD |
| 14-RECKONING STATION | |



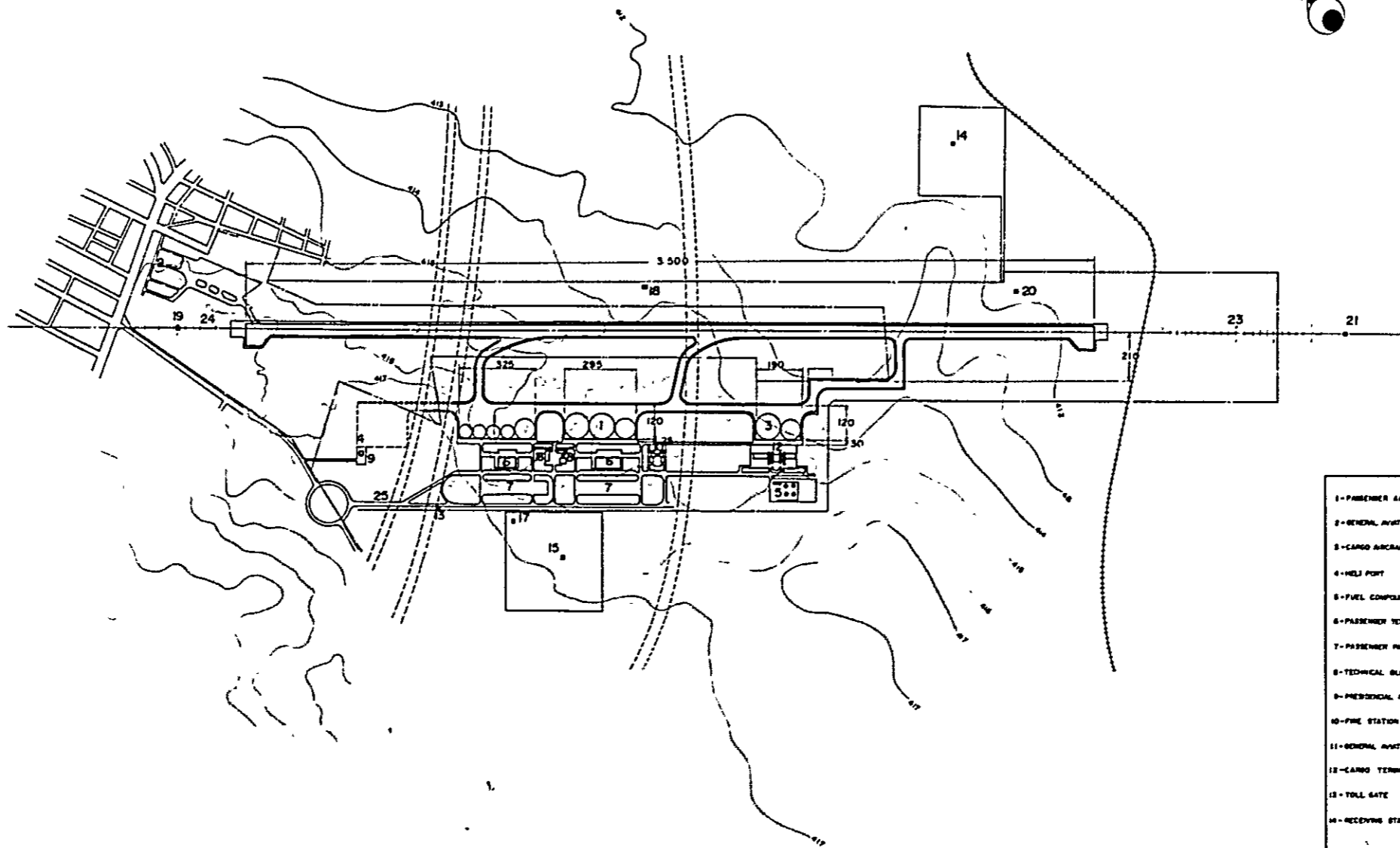
DRAWING-4
NEW AIRPORT LAYOUT PLAN
 (DESIGN YEAR 2000)



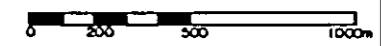
1-PASSENGER AIRCRAFT APRON	15-TRANSMITTING STATION
2-GENERAL AVIATION APRON	16-PAV SUBSTATION
3-CARGO AIRCRAFT APRON	17-ROD
4-HELIPORT	18-VOR/DME
5-FUEL COMPOUND	19-SIGNALIZER
6-PASSENGER TERMINAL	20-LS/SLICE PATH
7-PASSENGER PARKING	21-MIDDLE MARKER
8-TECHNICAL BLOCK	22-OUTER MARKER
9-PRESCHOOL PAULSEN	23-APPROACH LIGHT/DIVERST
10-FIRE STATION	24-EMBLE APPROACH LIGHT
11-GENERAL AVIATION FACILITY	25-APPROACH ROAD
12-CARGO TERMINAL	
13-TOLL GATE	
14-RECEIVING STATION	



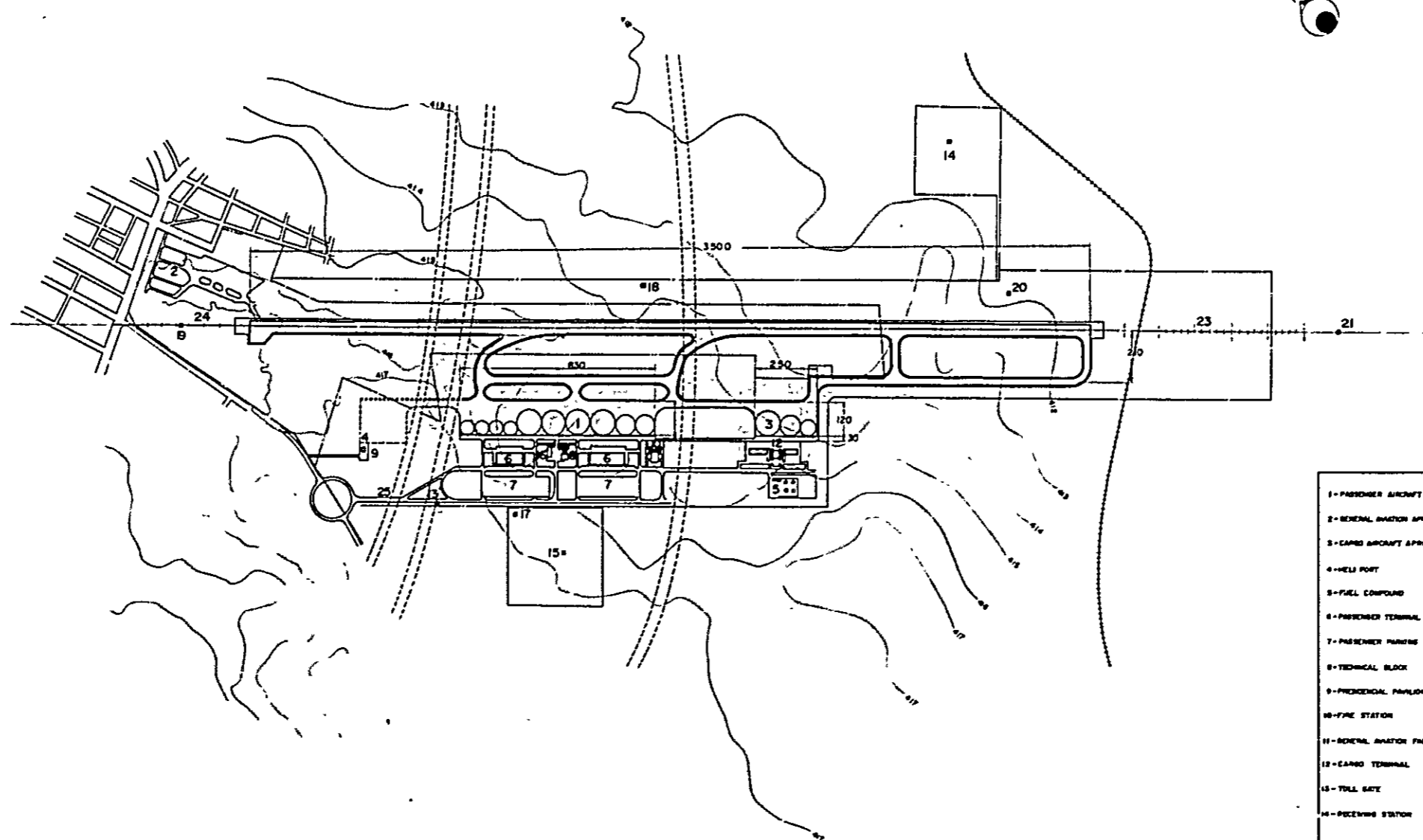
DRAWING-5
 EXISTING AIRPORT EXPANSION LAYOUT PLAN
 DESIGN YEAR 1985



1 - PASSENGER AIRCRAFT APRON	15 - TRANSMITTING STATION
2 - GENERAL AVIATION APRON	16 - No. 1 SUBSTATION
3 - CARGO AIRCRAFT APRON	17 - ROO
4 - HELI PORT	18 - VOR/DME
5 - FUEL COMPOUND	19 - ILS/LOCALIZER
6 - PASSENGER TERMINAL	20 - ILS/SLIDE PATH
7 - PASSENGER PARKING	21 - MIDDLE MARKER
8 - TECHNICAL BLDG	22 - OUTER MARKER
9 - PRESIDENTIAL PAVILION	23 - APPROACH LIGHTS/VERTS
10 - FIRE STATION	24 - SIMPLE APPROACH LIGHT
11 - GENERAL AVIATION FACILITY	25 - APPROACH ROAD
12 - CARGO TERMINAL	
13 - TOLL GATE	
14 - RECEIVING STATION	



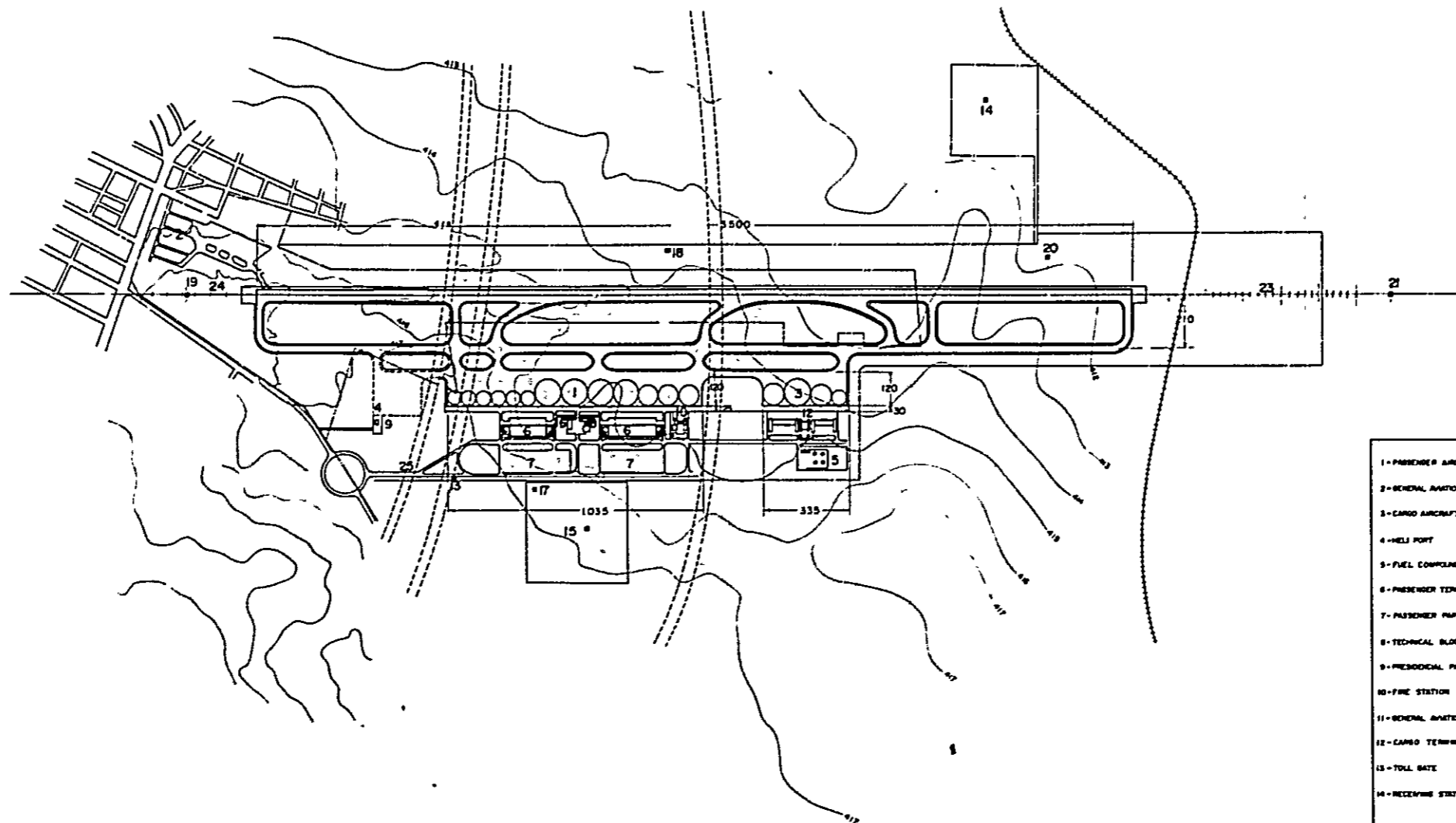
DRAWING-6
 EXISTING AIRPORT EXPANSION LAYOUT PLAN
 DESIGN YEAR 1990



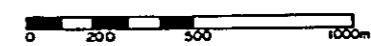
1-PASSENGER AIRCRAFT APRON	15-TRANSMITTING STATION
2-GENERAL AVIATION APRON	16-VOR/DME
3-CARGO AIRCRAFT APRON	17-NDB
4-HELL PORT	18-VOR/DME
5-FUEL COMPOUND	19-ILS/LOCALIZER
6-PASSENGER TERMINAL	20-ILS/ glide PATH
7-PASSENGER PAVINGS	21-GRIDDLE MARKER
8-TECHNICAL BLOCK	22-OUTER MARKER
9-PROCESSIONAL PARLOR	23-APPROACH LIGHTS/VERT
10-FIRE STATION	24-SIMPLE APPROACH LIMIT
11-GENERAL AVIATION FACILITY	25-APPROACH ROAD
12-CARGO TERMINAL	
13-TOLL GATE	
14-RECEIVING STATION	



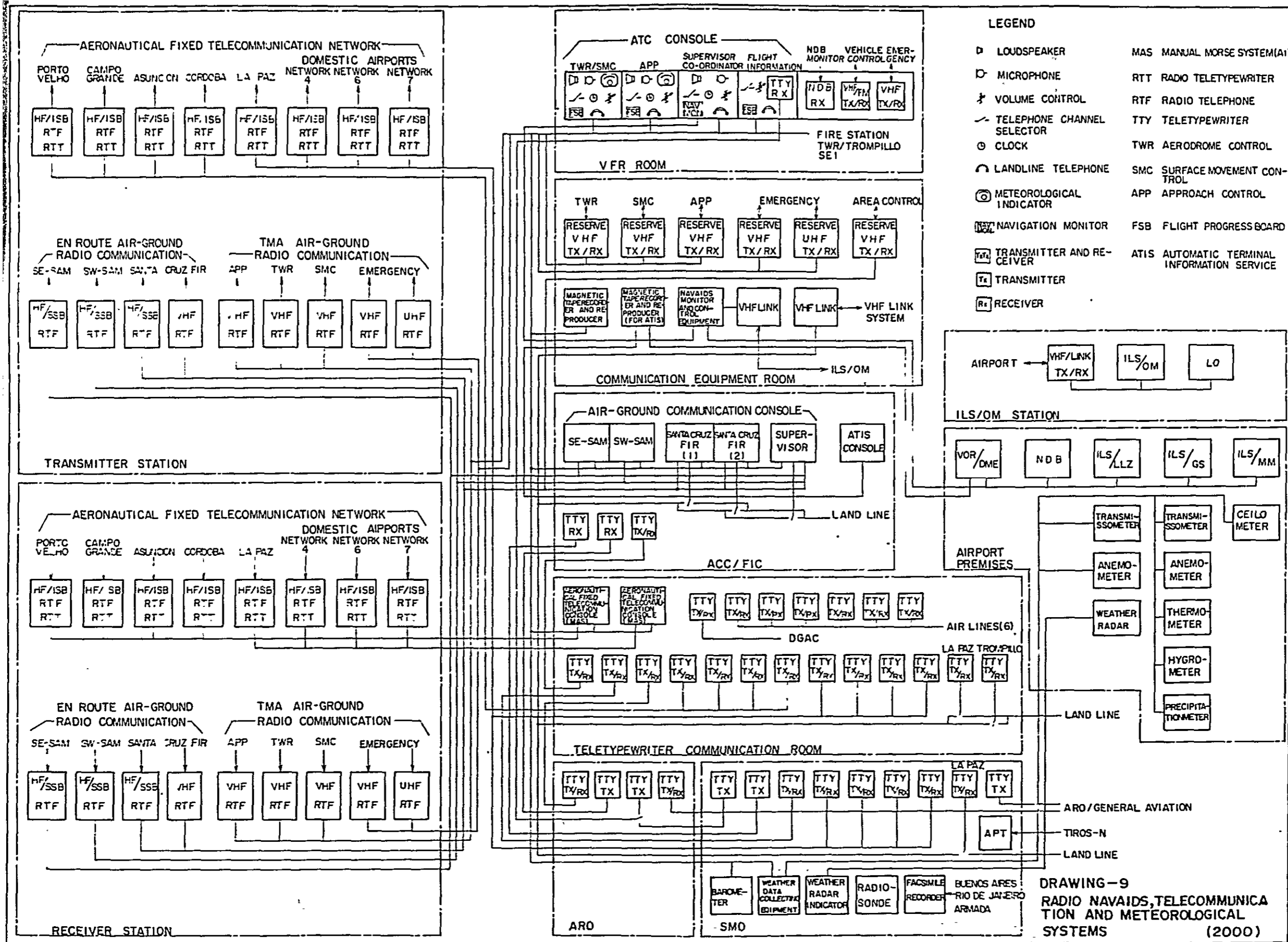
DRAWING-7
 EXISTING AIRPORT EXPANSION LAYOUT PLAN
 DESIGN YEAR 1995



1 - PASSENGER AIRCRAFT APRON	15 - TRANSMITTING STATION
2 - GENERAL AVIATION APRON	16 - ILS SUBSTATION
3 - CARGO AIRCRAFT APRON	17 - HOB
4 - HELI PORT	18 - VOR/DME
5 - FUEL COMPOUND	19 - R/S LOCALIZER
6 - PASSENGER TERMINAL	20 - ILS/SIDE PATH
7 - PASSENGER PARKING	21 - MIDDLE MARKER
8 - TECHNICAL BLOCK	22 - OUTER MARKER
9 - PRESIDENTIAL PAULION	23 - APPROACH LIGHT/ALERT
10 - FIRE STATION	24 - SIMPLE APPROACH LIGHT
11 - GENERAL AVIATION FACILITY	25 - APPROACH ROAD
12 - CARGO TERMINAL	
13 - TOLL GATE	
14 - RECEIVING STATION	



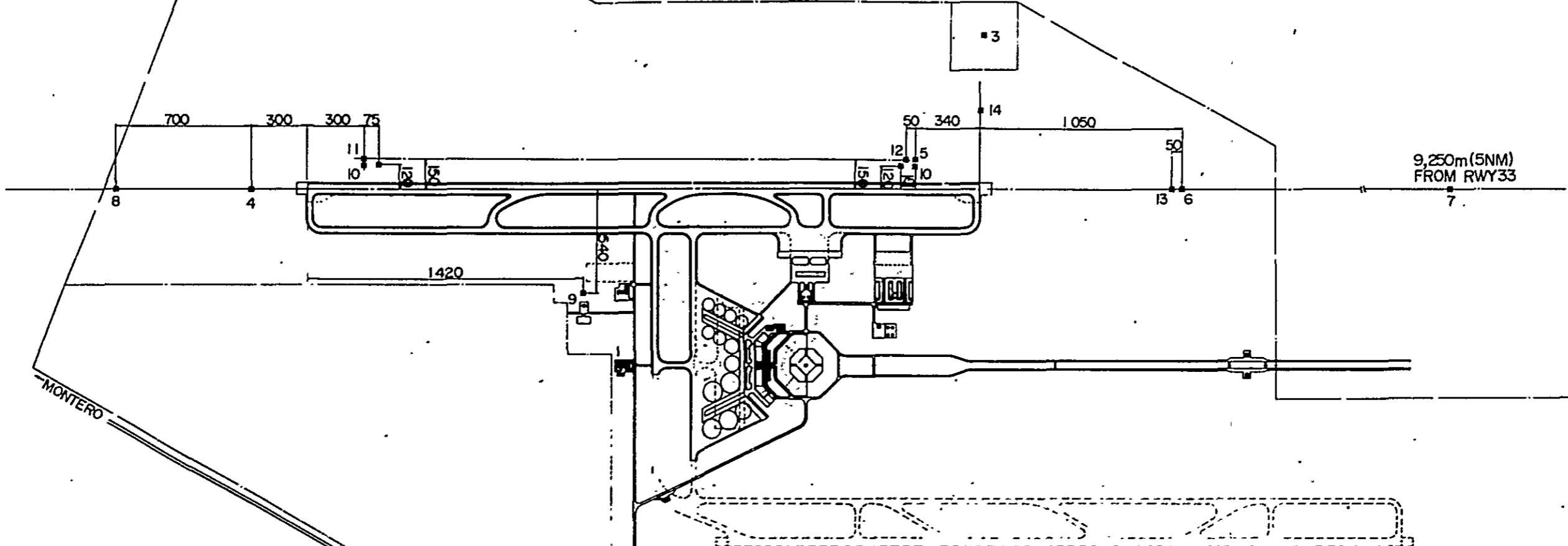
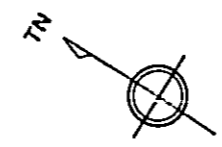
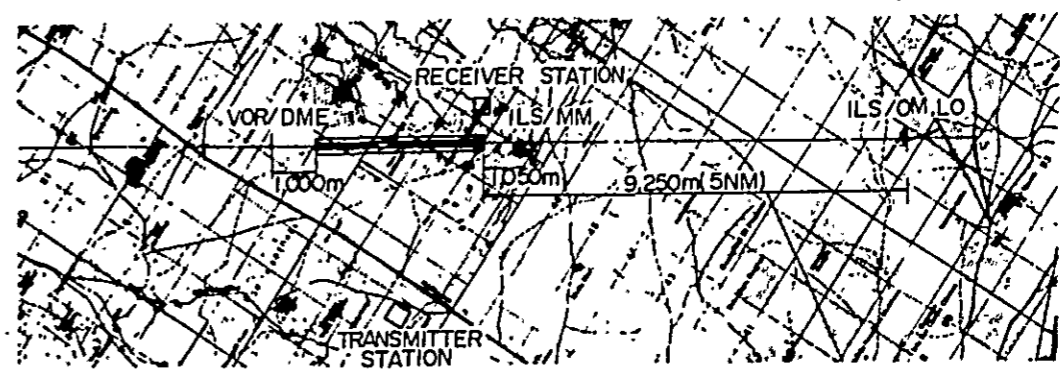
DRAWING- B
 EXISTING AIRPORT EXPANSION LAYOUT PLAN
 DESIGN YEAR 2000



LEGEND

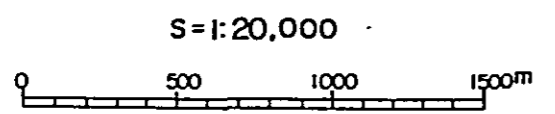
- ◻ LOUSPEAKER
- ◻ MICROPHONE
- ⊕ VOLUME CONTROL
- ⊕ TELEPHONE CHANNEL SELECTOR
- ⊕ CLOCK
- ⊕ LANDLINE TELEPHONE
- ⊕ METEOROLOGICAL INDICATOR
- ⊕ NAVIGATION MONITOR
- ⊕ TRANSMITTER AND RECEIVER
- ⊕ TRANSMITTER
- ⊕ RECEIVER
- MAS MANUAL MORSE SYSTEM(AI)
- RTT RADIO TELETYPEWRITER
- RTF RADIO TELEPHONE
- TTY TELETYPEWRITER
- TWR AERODROME CONTROL
- SMC SURFACE MOVEMENT CONTROL
- APP APPROACH CONTROL
- FSB FLIGHT PROGRESS BOARD
- ATIS AUTOMATIC TERMINAL INFORMATION SERVICE

DRAWING-9
RADIO NAVAIDS, TELECOMMUNICATION AND METEOROLOGICAL SYSTEMS
 (2000)

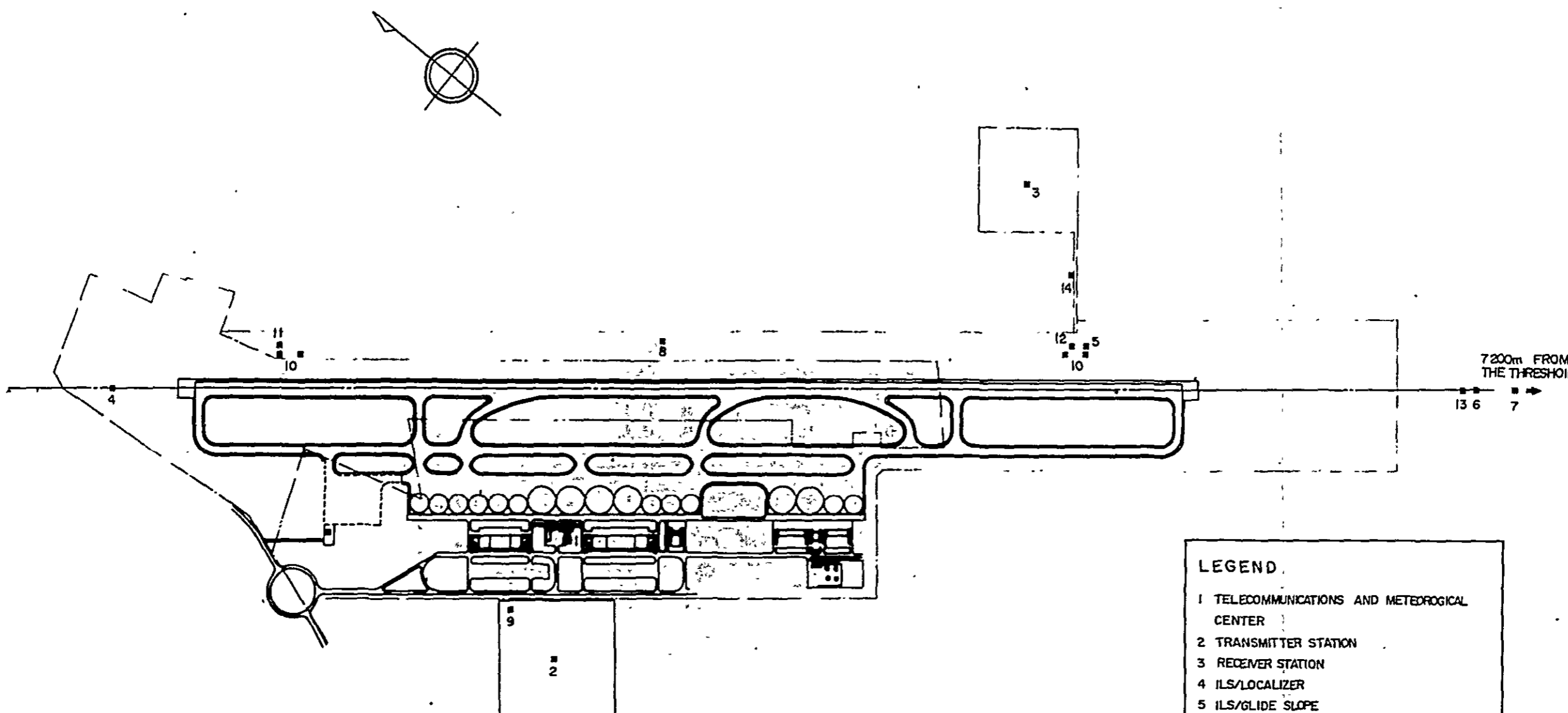


FACILITIES	LAND AREA
TRANSMITTER STATION	160,000 m ² (400m x 400m)
RECEIVER STATION	122,500 m ² (350m x 350m)
NDB	4,400 m ² (110m x 40m)
ILS/MIDDLE MARKER	25 m ² (5m x 5m)
ILS/OUTER MARKER AND COMPASS LOCATOR	1,375 m ² (55m x 25m)

LEGEND	
1	TELECOMMUNICATIONS AND METEOROLOGICAL CENTER
2	TRANSMITTER STATION
3	RECEIVER STATION
4	ILS/LOCALIZER
5	ILS/GLIDE SLOPE
6	ILS/MIDDLE MARKER
7	ILS/OUTER MARKER AND COMPASS LOCATOR
8	VOR/DME
9	NDB
10	TRANSMISSOMETER
11	ANEMOMETER
12	ANEMOMETER, THERMO-HYGRO METER AND PRECIPITATION METER
13	CEILOMETER
14	WEATHER RADAR

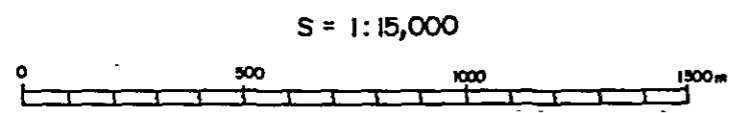


DRAWING - 10
LOCATION OF RADIO NABAIDS, TELECOMMUNICATION AND METEOROLOGICAL FACILITIES. (2000)

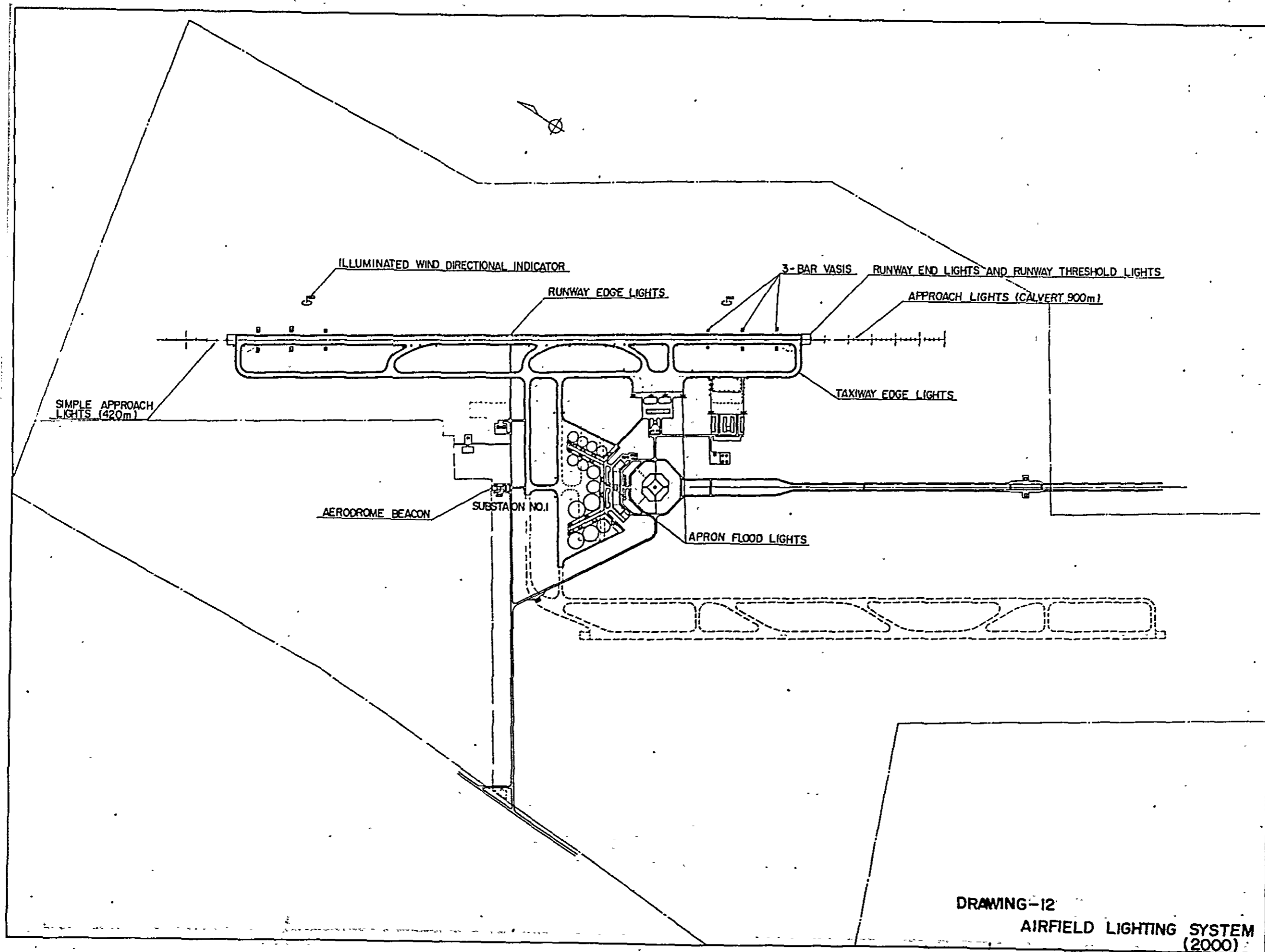


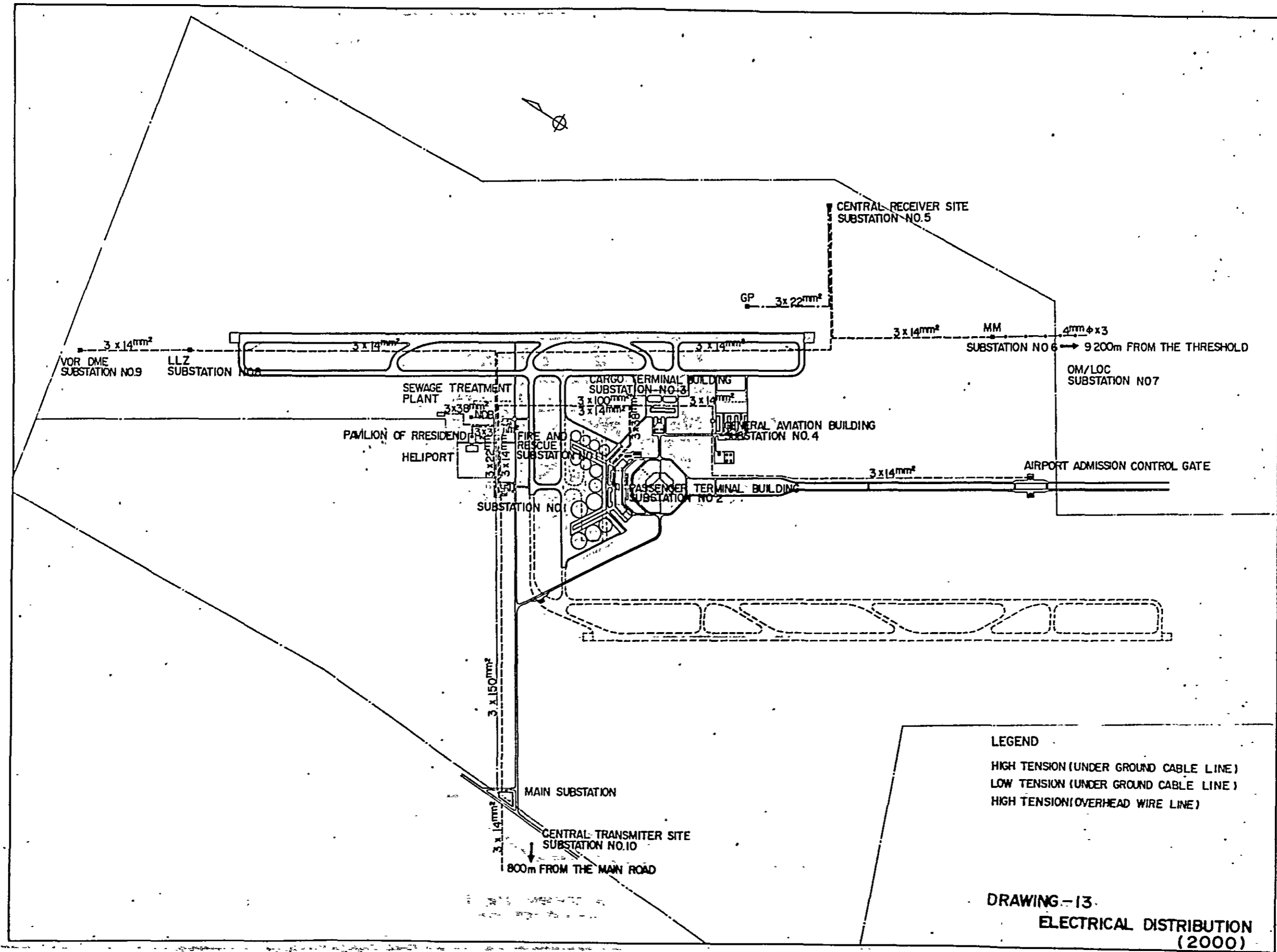
- LEGEND**
- 1 TELECOMMUNICATIONS AND METEOROLOGICAL CENTER
 - 2 TRANSMITTER STATION
 - 3 RECEIVER STATION
 - 4 ILS/LOCALIZER
 - 5 ILS/GLIDE SLOPE
 - 6 ILS/MIDDLE MARKER
 - 7 ILS/OUTER MARKER AND COMPASS LOCATOR
 - 8 VOR/DME
 - 9 NDB
 - 10 TRANSMISSOMETER
 - 11 ANEMOMETER
 - 12 ANEMOMETER, THERMO-HYGRO METER AND PRECIPITATION METER
 - 13 CEILOMETER
 - 14 WEATHER RADAR

SITE	LAND AREA
TRANSMITTER STATION AND NDB	160 000m ² (400 ^m x 400 ^m)
RECEIVER STATION	122 500m ² (350 ^m x 350 ^m)
ILS/MIDDLE MARKER	25m ² (5 ^m x 5 ^m)
ILS/OUTER MARKER AND COMPASS LOCATOR	1 375m ² (55 ^m x 25 ^m)



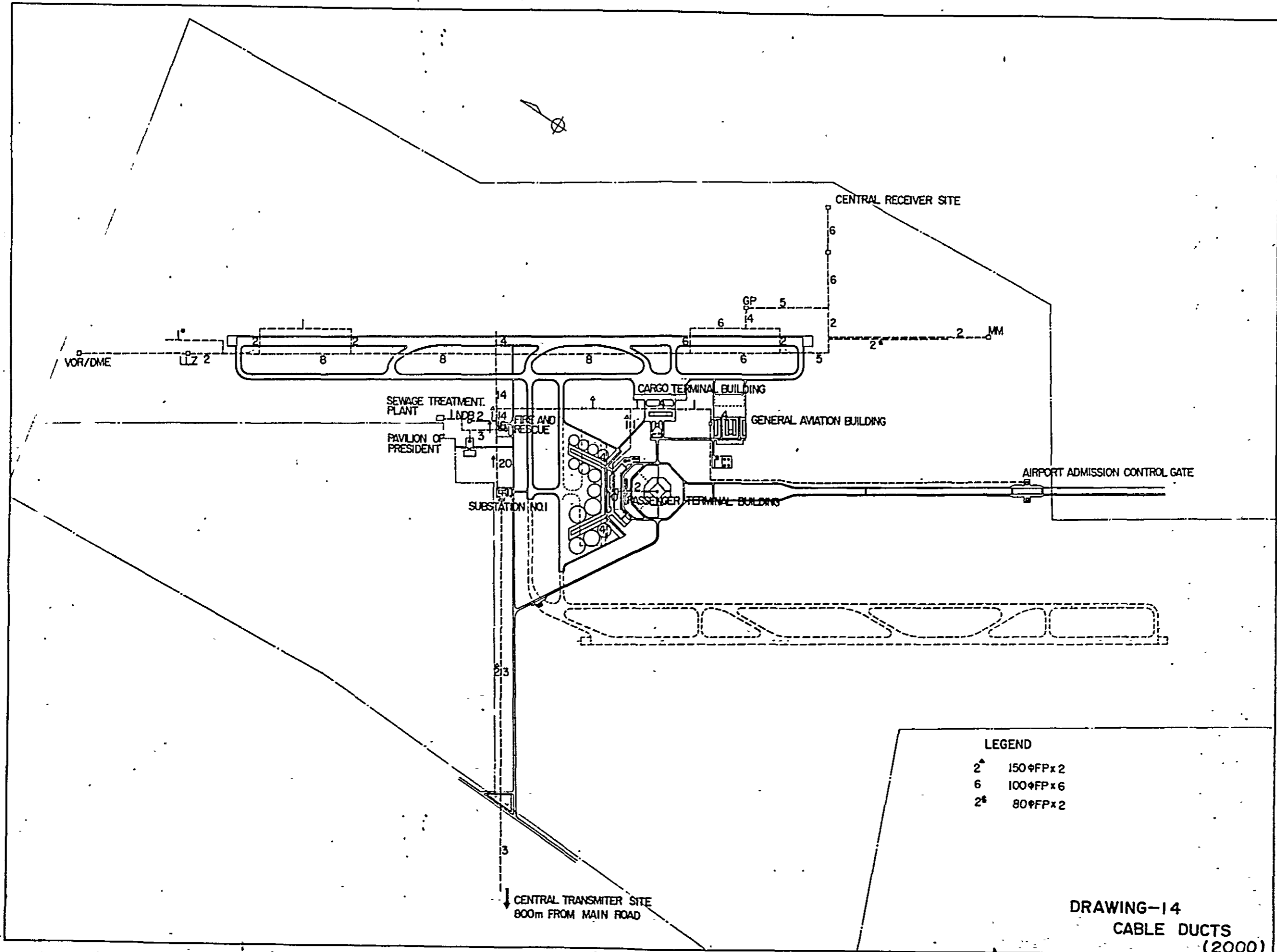
DRAWING-11
LOCATION OF RADIO NAVAIDS, TELECOMMUNICATION AND METEOROLOGICAL FACILITIES
 (2000)





LEGEND
 HIGH TENSION (UNDER GROUND CABLE LINE)
 LOW TENSION (UNDER GROUND CABLE LINE)
 HIGH TENSION (OVERHEAD WIRE LINE)

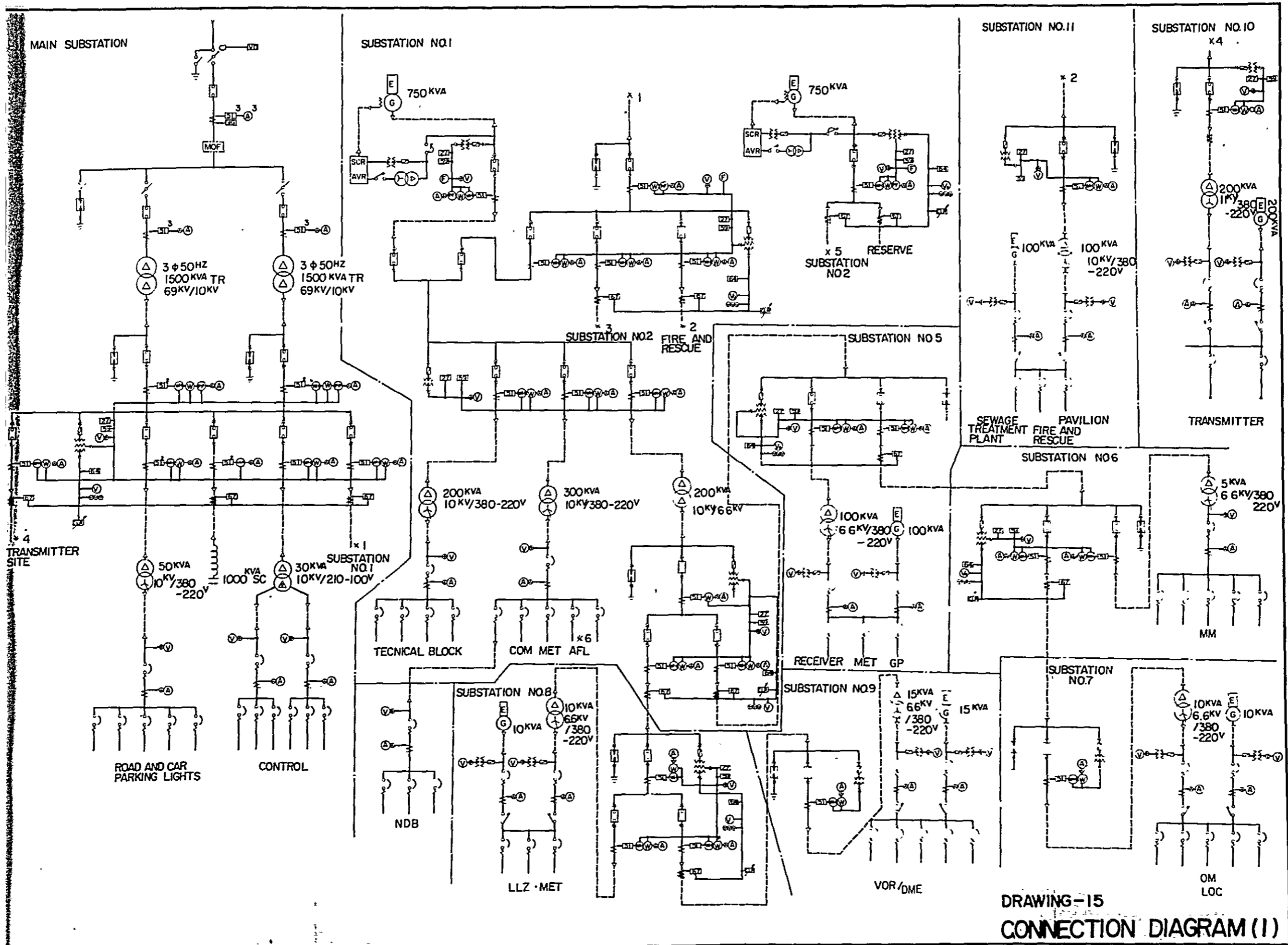
DRAWING - 13
 ELECTRICAL DISTRIBUTION
 (2000)



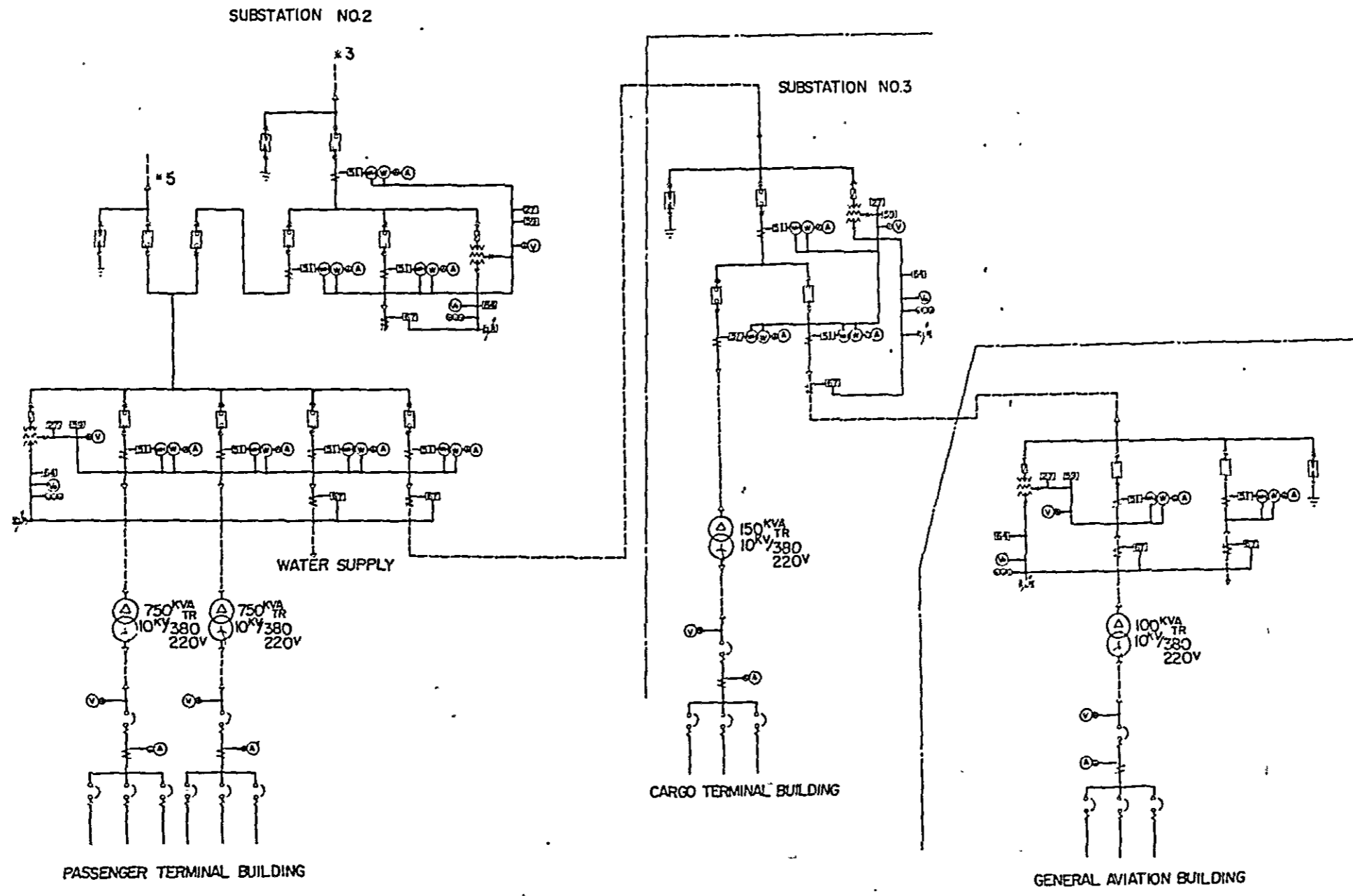
LEGEND

- 2 150φFPx2
- 6 100φFPx6
- 2* 80φFPx2

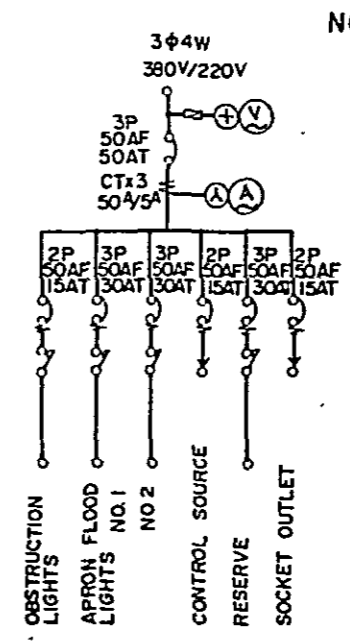
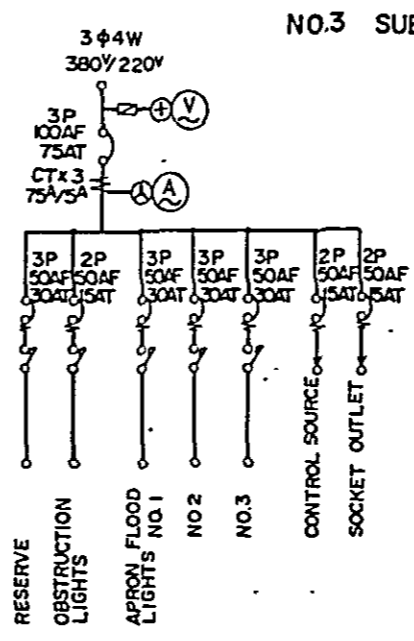
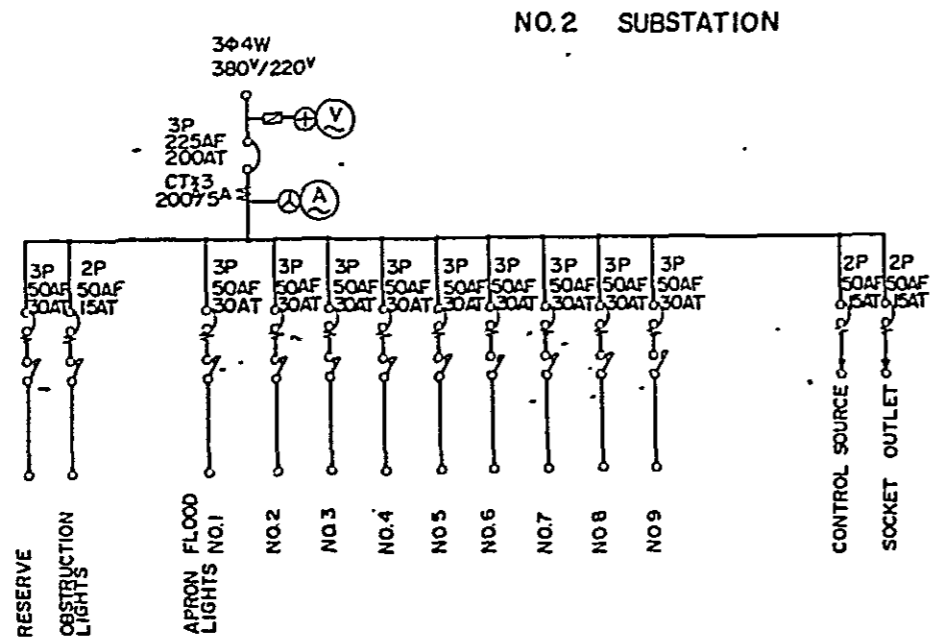
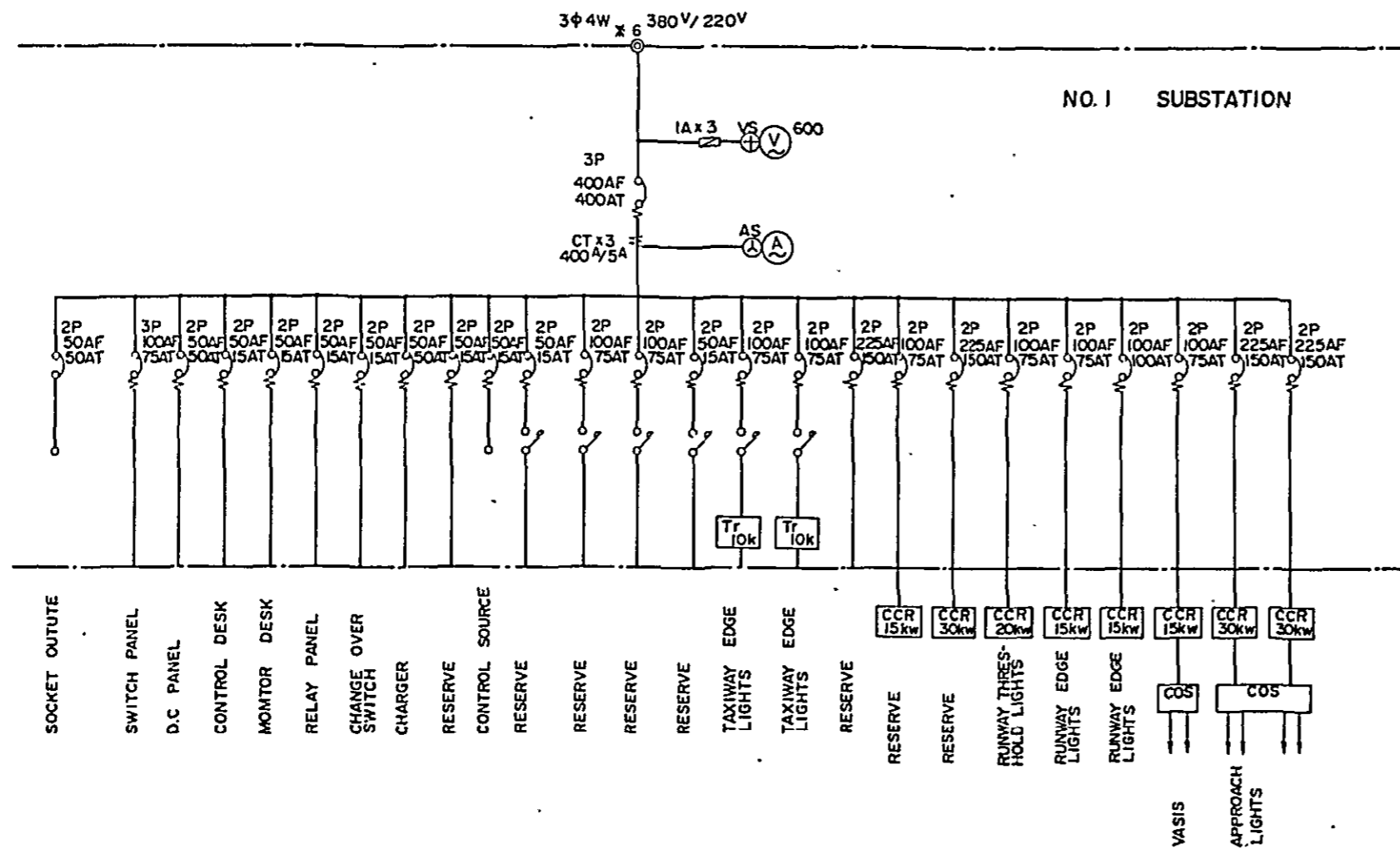
DRAWING-14
CABLE DUCTS
(2000)



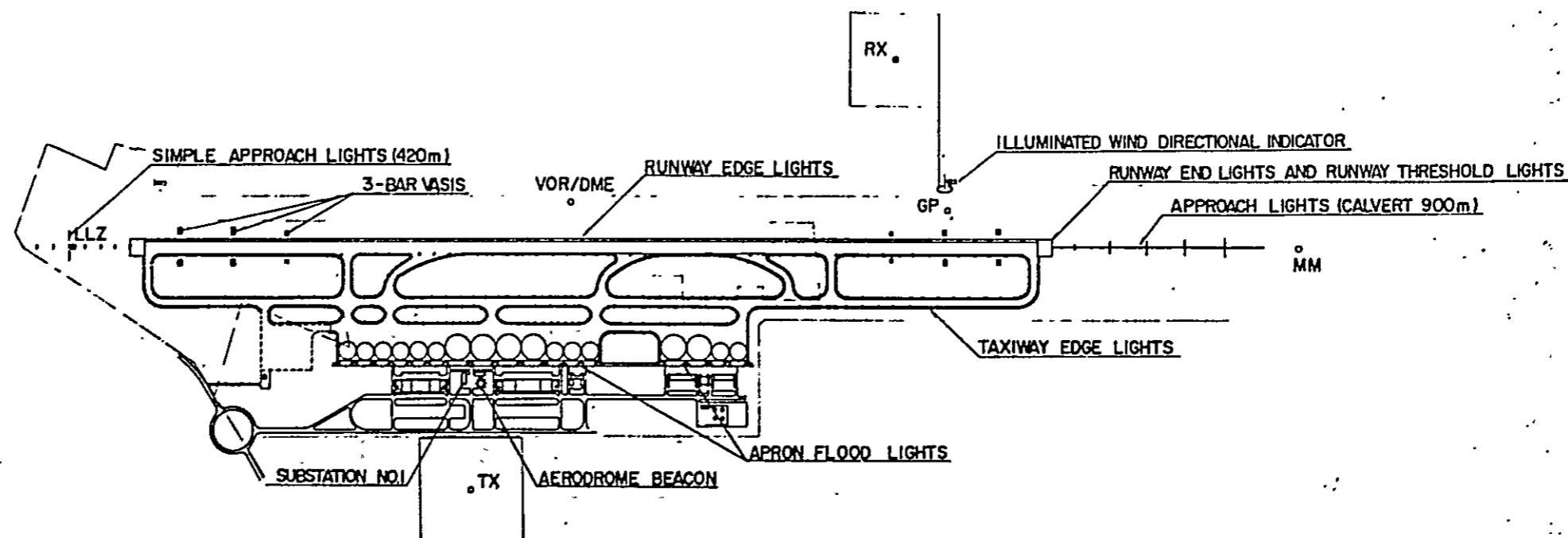
DRAWING-15
CONNECTION DIAGRAM (I)



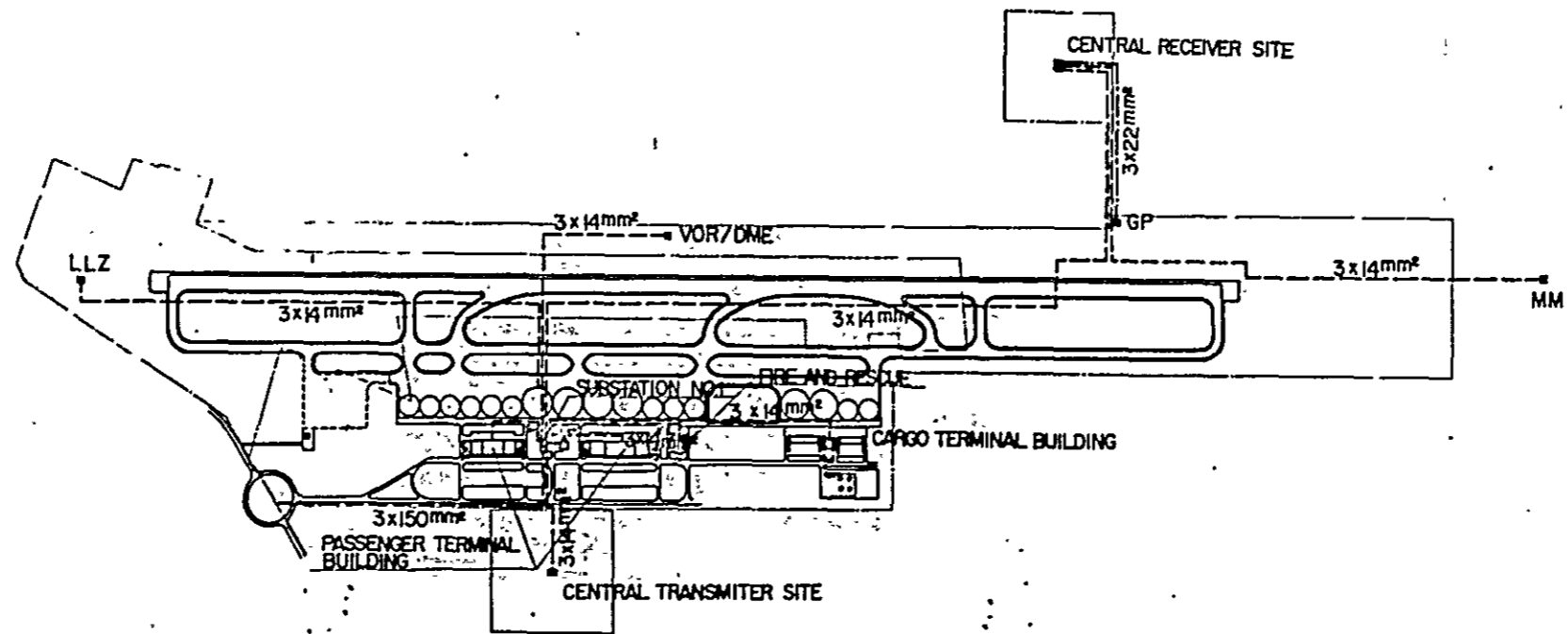
DRAWING-16
 CONNECTION DIAGRAM (2)
 (1990)



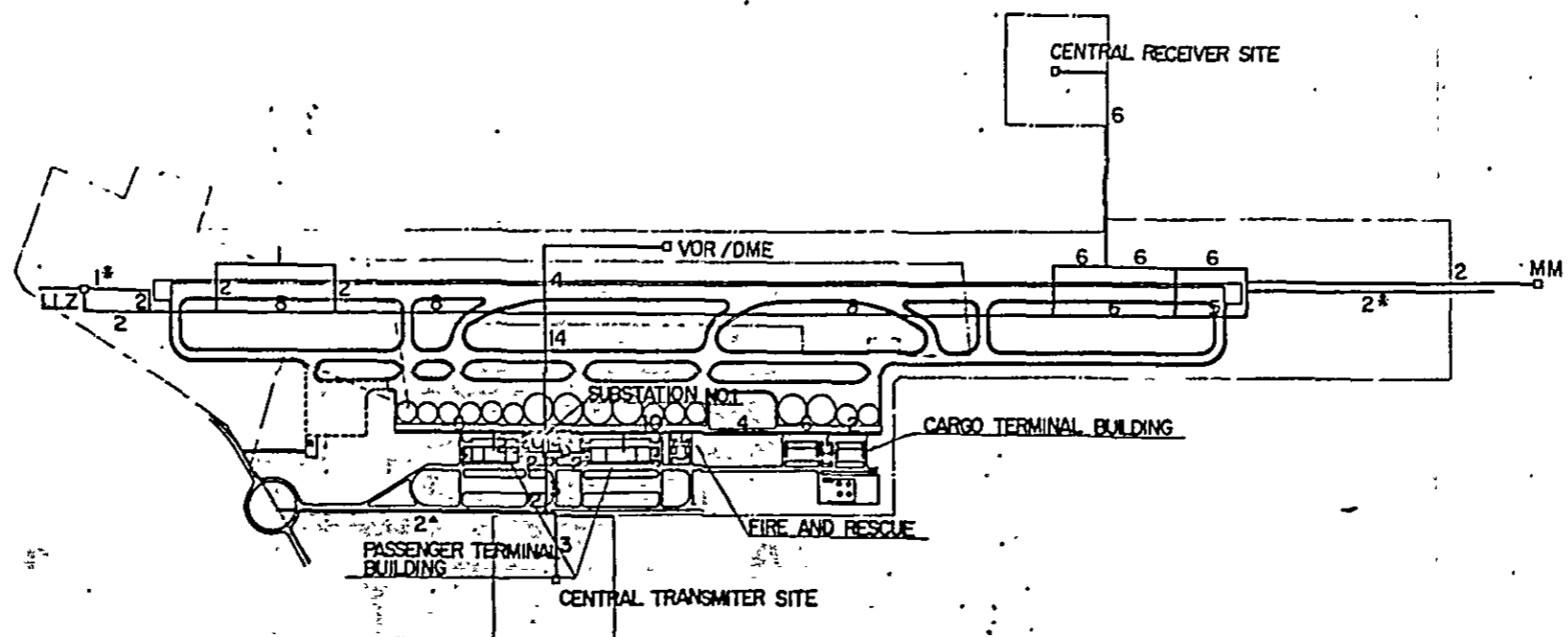
DRAWING-17
CONNECTION DIAGRAM (3)
(1990)



DRAWING-18
 AIRFIELD LIGHTING SYSTEM
 (2000)



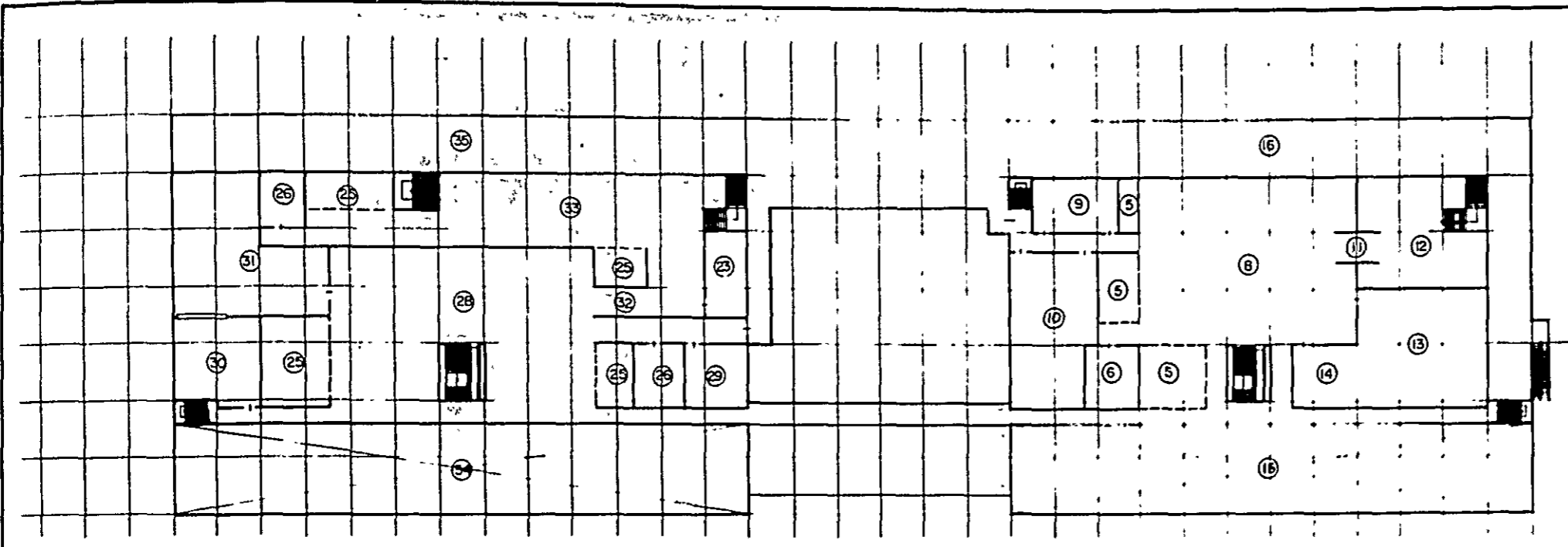
DRAWING-19
 ELECTRICAL DISTRIBUTION
 (2000)



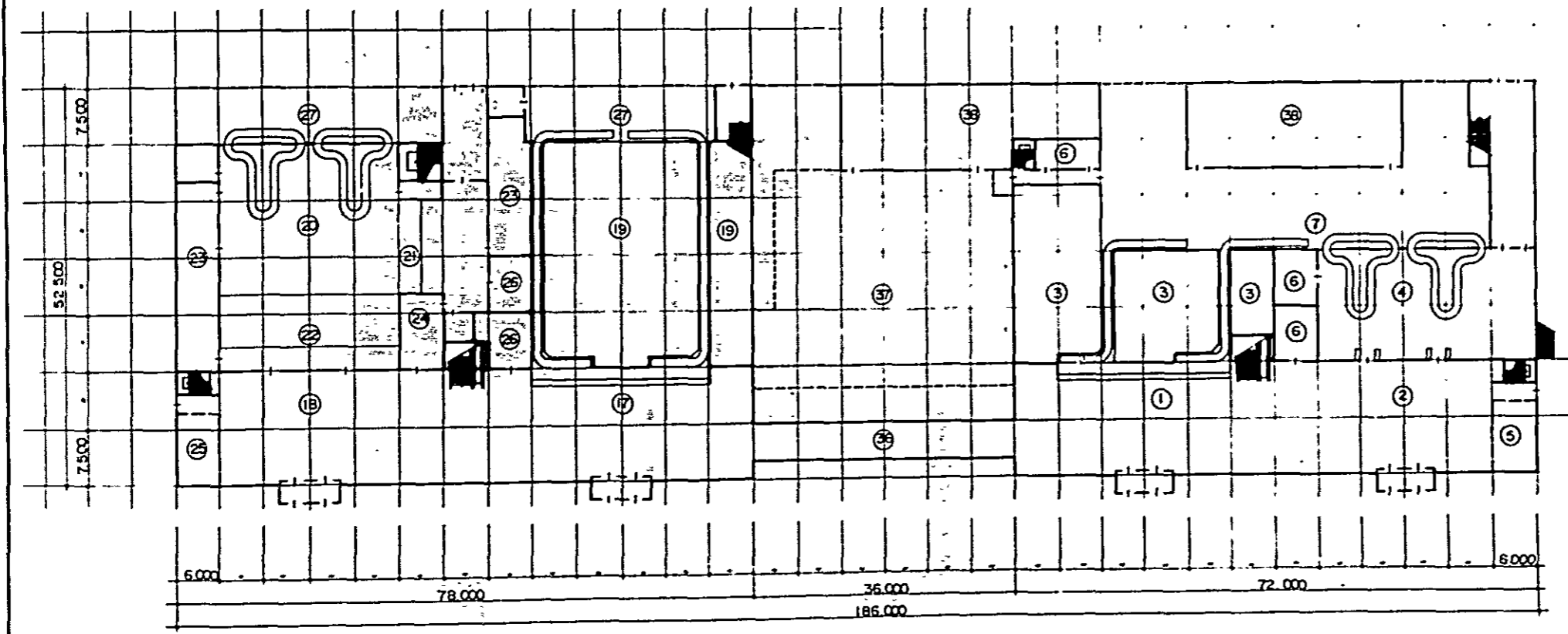
LEGEND

- 6 100 φFP x 6
- 2* 50 φFP x 2
- 2^ 150 φFP x 2

DRAWING-20
 CABLE DUCTS
 (2000)



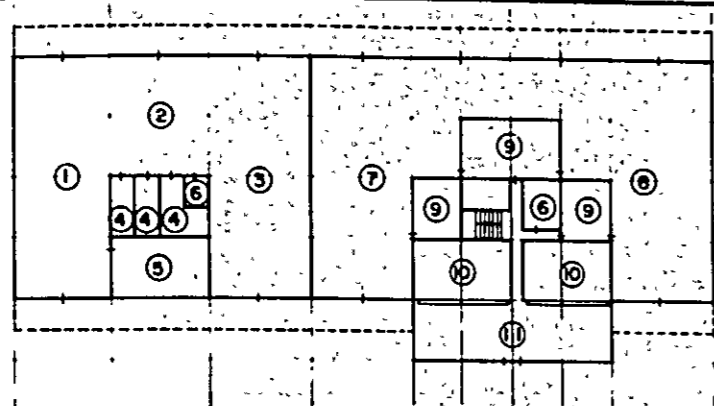
SECOND FLOOR PLAN



FIRST FLOOR PLAN

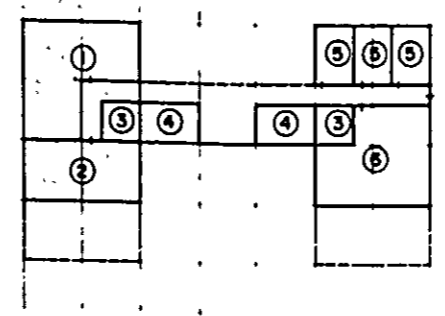
DOMESTIC OPERATION	1	TICKET LOBBY
	2	ARRIVAL LOBBY
	3	AIRLINE OFFICE
	4	BAGGAGE CLAIM
	5	CONCESSION
	6	W C
	7	BAGGAGE HANDLING AREA
	8	DEPARTURE LOBBY
	9	VIP ROOM
	10	AASANA OFFICE
	11	SECURITY GATE
	12	DEPARTURE LOUNGE
	13	COFFEE SHOP
	14	RESTAURANT BAR
	15	UPPER PART
	16	OBSERVATION DECK
INTERNATIONAL OPERATION	17	TICKET LOBBY
	18	ARRIVAL LOBBY
	19	AIRLINE OFFICE
	20	BAGGAGE CLAIM
	21	IMMIGRATION
	22	CUSTOMS
	23	CIO OFFICE
	24	BANK
	25	CONCESSION
	26	W C
	27	BAGGAGE HANDLING AREA
	28	DEPARTURE LOBBY
	29	VIP ROOM
	30	KITCHEN
	31	RESTAURANT BAR
	32	SECURITY GATE
33	DEPARTURE LOUNGE	
34	UPPER PART	
35	OBSERVATION DECK	
COMMON USE	36	CORRIDOR
	37	COURT
	38	MACHINE ROOM





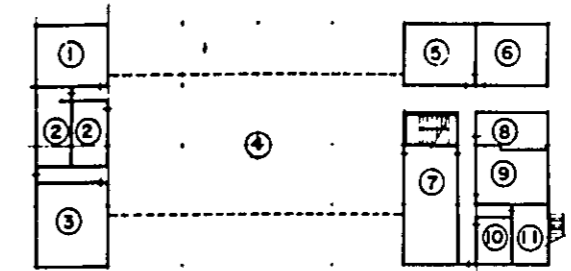
CARGO TERMINAL BUILDING

①	IMPORT CARGO
②	TRANSIT CARGO
③	EXPORT CARGO
④	BOUND STORE
⑤	REFRIGERATED STORE
⑥	W.C
⑦	DOMESTIC OUTBOUND CARGO
⑧	DOMESTIC INBOUND CARGO
⑨	AGENCY
⑩	AIRLINE OFFICE
⑪	HALL



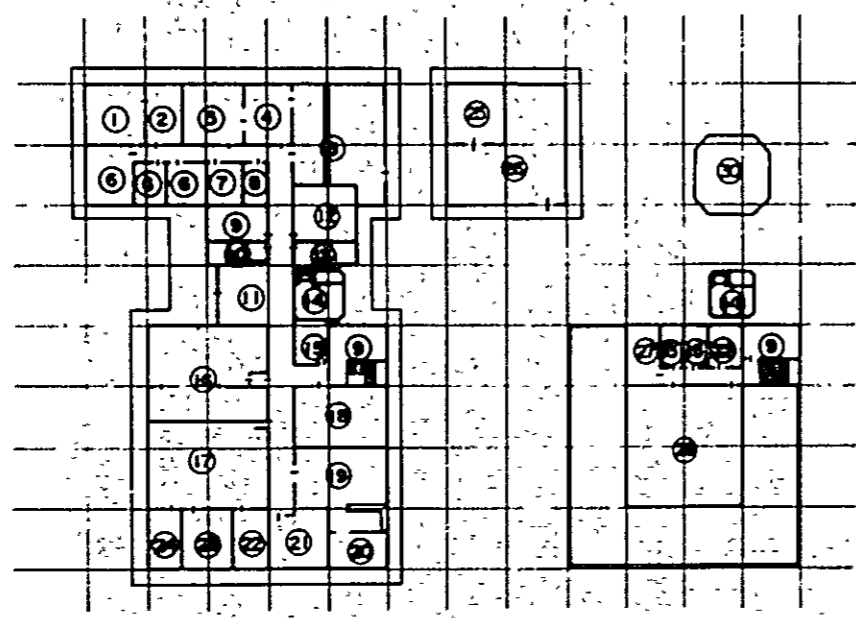
CUSTOMS AND POST OFFICE FOR CARGO

①	CUSTOMS
②	QUARANTINE
③	LOCKER ROOM
④	W.C SHOWER ROOM
⑤	POSTAL AUTHORITY OFFICE
⑥	MAIL HANDLING AREA



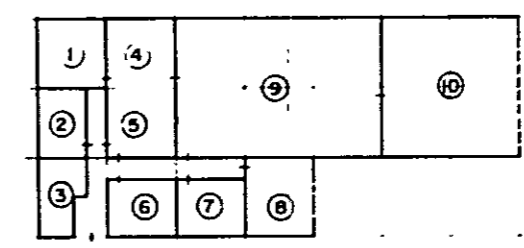
FIRE AND RESCUE STATION

①	MAINTENANCE ROOM
②	STORE
③	TRAINING ROOM
④	GARAGE
⑤	WATCH ROOM
⑥	OFFICE
⑦	FIRE FIGHTING PERSONNEL
⑧	KITCHEN
⑨	DINING ROOM
⑩	SHOWER ROOM
⑪	W C



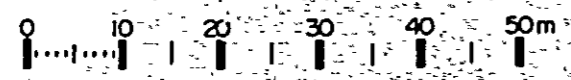
CONTROL TOWER BLOCK

①	METEOROLOGICAL CHIEF OFFICER
②	WEATHER FORECAST CHIEF OFFICER
③	METEOROLOGICAL OPERATION
④	WEATHER FORECAST PROCESSING
⑤	BRIEFING ROOM
⑥	MET OFFICE
⑦	RADAR ROOM
⑧	BAROMETER
⑨	W C
⑩	RECEPTIONIST
⑪	ENTRANCE HALL
⑫	AIS OFFICE
⑬	FILES
⑭	CONTROL TOWER
⑮	STORE
⑯	TELETYPE
⑰	COMMUNICATION EQUIPMENT
⑱	LOCKER ROOM
⑲	PERSONNEL LOUNG DINING
⑳	KITCHEN
㉑	COMMUNICATION CHIEF OFFICER
㉒	MONITOR ROOM
㉓	MAINTENANCE ROOM
㉔	PARTS STORE
㉕	ELECTRIC
㉖	AIR CONDITIONING
㉗	ATS CHIEF OFFICER
㉘	PERSONNEL LOUNGE
㉙	ATS OPERATION
㉚	VFR ROOM



SUBSTATION

①	PERSONNEL LOUNGE
②	MAINTENANCE ROOM
③	SHOWER LOCKER W.C
④	MONITOR ROOM
⑤	OFFICE
⑥	PARTS STORE
⑦	BATTERY
⑧	GARAGE
⑨	EQUIPMENT ROOM
⑩	EMERGENCY ENGINE GENERATOR



DRAWING - 22 FLOOR PLANS CARGO TERMINAL, SUPPORT FACILITIES, AND UTILITY BUILDINGS

