

THE DETAILED DESIGN STUDY ON
AREA TRAFFIC CONTROL PROJECT IN BANGKOK
IN THE KINGDOM OF THAILAND

SUPPLEMENTARY VOLUME

PART 9

EXISTING UTILITY LINES PLANS

FINAL REPORT

OCTOBER 1990

JAPAN INTERNATIONAL COOPERATION AGENCY


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International Development Cooperation Agency
United Nations Development Programme
World Bank



国際協力事業団

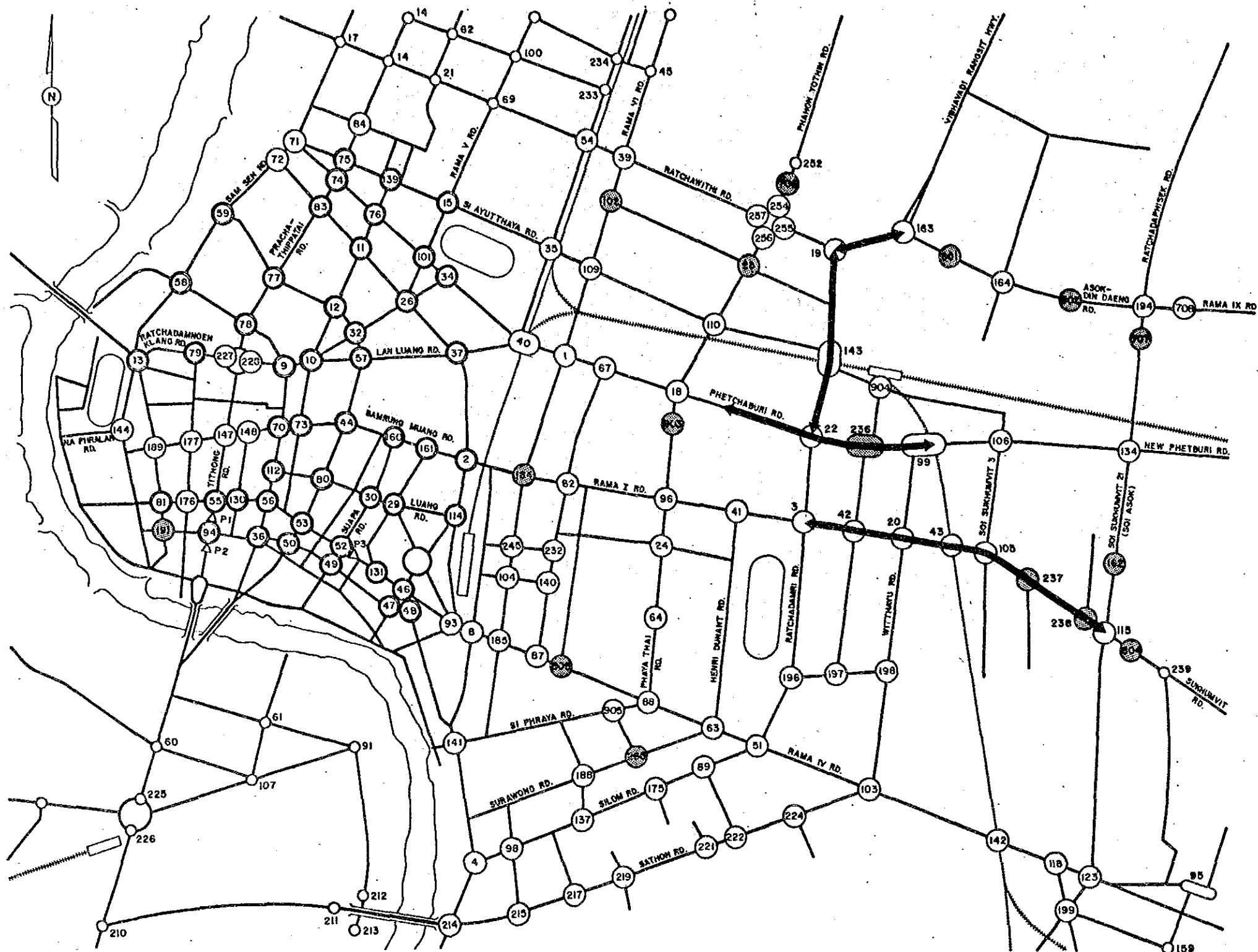
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EXISTING UTILITY LINES PLANS

This volume contains drawings covering all the intersections under the proposed Bangkok ATC System-Stage I Project, each indicating the location of the existing utility lines and their related facilities in and near the intersection.

The utility lines shown in this volume include electrical power supply lines, telephone lines (both aerial and underground lines) and drainage pipe lines. The drawings also show the location of vertical poles for the power and telephone supply lines, and man-hole locations for the power, telephone and drainage.

These data have been obtained from observation surveys at each intersection conducted within two months from March to April of 1990, by this JICA Project.



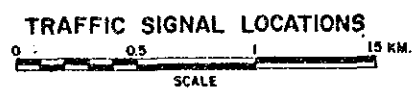
LEGEND

TRAFFIC SIGNAL UNDER STAGE I ATC SYSTEM

- INTERSECTION NO.
- 9 SIGNAL IN THE EXISTING ATC SYSTEM
 - |● 51 EXISTING ISOLATED SIGNAL
 - /● 85 PLANNED SIGNAL TO BE INSTALLED
 - △ P1 PEDESTRIAN CROSSING SIGNAL

TRAFFIC SIGNAL OUTSIDE OF STAGE I ATC SYSTEM

- INTERSECTION NO.
- 61




↔ REVERSIBLE LANE

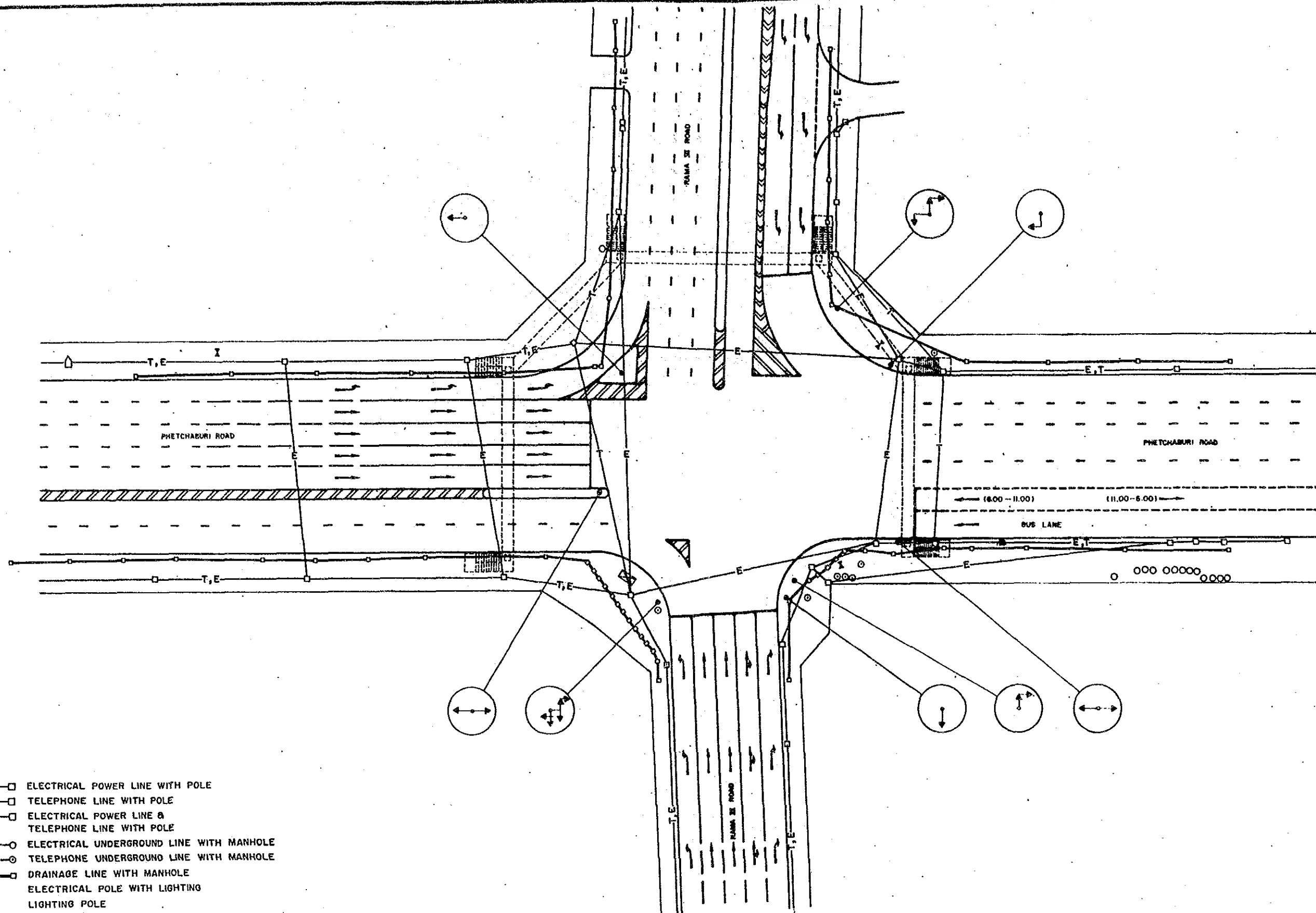
LIST OF INTERSECTIONS

No.	Intersection No.	Drawing No.	Intersection Name
1.	1	6001	RAMA VI-PHETCHABURI
2.	2	6002	KRUNG KASEM-BAMRUNG MUANG
3.	3	6003	RATCHADAMRI-RAMA I-PHLOEN CHIT
4.	4	6004	CHAROEN KRUNG-SI LOM
5.	8	6008	MAHA PHRUTTHARAM-RAMA IV-RONG MUANG
6.	9	6009	RATCHADAMNOEN KLANG-PHRA SUMEN-MAHA CHAI
7.	10	6010	LAN LUANG-RATCHADAMNOEN NOK-NAKHON SAWAN
8.	11	6011	RATCHADAMNOEN NOK-KRUNG KASEM
9.	12	6012	RATCHADAMNOEN NOK-WISUT KASAT
10.	13	6013	RATCHADAMNOEN KLANG-RATCHADAMNOEN NAI
11.	15	6015	RAMA V-SI AYUTTHAYA
12.	18	6018	PHAYA THAI-PHETCHABURI
13.	19	6019	RATCHAPRAROP-DIN DAENG-RATCHAWITHI
14.	20	6020	WITTHAYU-PHLOEN CHIT
15.	22	6022	RATCHAPRAROP-RATCHADAMRI-PHETCHABURI
16.	24	6024	PHAYA THAI-SOI CHULALONGKORN 12
17.	25	6025	PHAYA THAI-YOTHI-RANG NAM
18.	26	6026	NAKHON SAWAN-KRUNG KASEM-LUK LUANG
19.	29	6029	PHLAPPLA CHAI-LUANG-MAITRI CHIT
20.	30	6030	SUAPA-LUANG-YUKHOL 2
21.	32	6032	CHAKKAPHATDI PHONG-NAKHON SAWAN
22.	34	6034	NAKHON SAWAN-PHITSANULOK
23.	35	6035	SAWANKHALOK-SI AYUTTHAYA
24.	36	6036	MAHA CHAI-YAOWARAT-PHIRAPHONG
25.	37	6037	KRUNG KASEM-LAN LUANG-LUK LUANG
26.	39	6039	RAMA VI-RATCHAWITHI
27.	40	6040	SAWANKHALOK-PHETCHABURI-LAN LUANG-PHITSANULOK
28.	41	6041	HENRI DUNANT-RAMA I
29.	42	6042	PHLOEN CHIT-SOI LANG SUAN-SOI CHIT LOM
30.	43	6043	PHLOEN CHIT-DIN DAENG PORT EXPRESSWAY
31.	44	6044	WORACHAK-BAMRUNG MUANG
32.	46	6046	CHAROEN KRUNG-RAMA IV-MITTRAPHAN
33.	47	6047	YAOWARAT-MITTRAPHAN
34.	48	6048	CHAROEN KRUNG-LAMPHUN CHAI
35.	49	6049	RATCHAWONG-YAOWARAT
36.	50	6050	CHAKKRAWAT-YAOWARAT-WORACHAK
37.	51	6051	SI LOM-RATCHADAMRI-RAMA IV
38.	52	6052	SUAPA-CHAROEN KRUNG-RATCHAWONG
39.	53	6053	WORACHAK-CHAROEN KRUNG
40.	54	6054	SAWANKHALOK-RATCHAWITHI
41.	55	6055	TRI PHET-CHAROEN KRUNG-TI THONG
42.	56	6056	MAHA CHAI-CHAROEN KRUNG
43.	57	6057	CHAKKAPHATDI PHONG-LAN LUANG
44.	58	6058	SAMSEN-CHAKKRAPHONG-PHRA SUMEN
45.	59	6059	SAMSEN-WISUT KASAT
46.	63	6063	HENRI DUNANT-RAMA IV-SURAWONG
47.	64	6064	PHAYA THAI-CHULALONGKORN UNIVERSITY ENTRANCE
48.	67	6067	BANTHAT THONG-PHETCHABURI
49.	70	6070	MAHA CHAI-BAMRUNG MUANG
50.	71	6071	SAMSEN-SI AYUTTHAYA

No.	Intersection No.	Drawing No.	Intersection Name
51.	72	6072	SAMSEN-KRUNG KASEM
52.	73	6073	BAMRUNG MUANG-BORIPHAT
53.	74	6074	PHITSANULOK-PHACHATHIPATAI
54.	75	6075	RATCHASIMA-SI AYUTTHAYA
55.	76	6076	RATCHADAMNOEN NOK-PHITSANULOK
56.	77	6077	PRACHATHIPATAI-WISUT KASAT
57.	78	6078	PRACHATHIPATAI-PHRA SUMEN
58.	79	6079	TANAO-RATCHADAMNOEN KLANG
59.	80	6080	WORACHAK-LUANG
60.	81	6081	ATSADANG-CHAROEN KRUNG
61.	82	6082	BANTHAT THONG-RAMA I
62.	83	6083	PRACHATHIPATAI-KRUNG KASEM
63.	84	6084	RATCHASIMA-UTHONG NOK
64.	87	6087	RAMA IV-BANTHAT THONG
65.	88	6088	PHAYA THAI-RAMA IV-SI PHRAYA
66.	89	6089	SI LOM-CONVENT
67.	93	6093	KRUNG KASEM-MAITRI CHIT-RAMA IV-TRAI MIT
68.	94	6094	TRI PHET-PHACHURAT
69.	96	6096	PHAYA THAI-RAMA I
70.	98	6098	SI LOM-SURASAK-MAHESAK
71.	99	6099	WITTHAYU-PHETCHABURI-DIN DAENG PORT EXPRESSWAY
72.	101	6101	RAMA V-PHITSANULOK
73.	102	6102	RAMA VI-YOTHI
74.	103	6103	SATHON-WITTHAYU-RAMA IV
75.	104	6104	CHARU MUANG-CHAROEN MUANG
76.	105	6105	SUKHUMVIT-SOI SUKHUMVIT 4 (NANA TAI)
77.	106	6106	NIKHOM MAKKASAN-PHETCHABURI-SOI SUKHUMVIT 3 (NANA NUA)
78.	109	6109	RAMA VI-SI AYUTTHAYA
79.	110	6110	PHAYA THAI-SI AYUTTHAYA
80.	112	6112	MAHA CHAI-LUANG
81.	114	6114	KRUNG KASEM-MITTRAPHAN-LUANG
82.	115	6115	SUKHUMVIT-SOI SUKHUMVIT 21 (ASOK)-RATCHADAPHISEK
83.	118	6118	SUNTHON KOSA-RAMA IV
84.	123	6123	RATCHADAPHISEK-RAMA IV
85.	130	6130	UNAKAN-CHAROEN KRUNG
86.	131	6131	PLAENG NAM-CHAROEN KRUNG
87.	134	6134	NEW PHETCHABURI-ASOK DIN DAENG
88.	137	6137	DECHO-SI LOM
89.	139	6139	RATCHADAMNOEN NOK-SI AYUTTHAYA
90.	140	6140	BANTHAT THONG-CHAROEN MUANG
91.	141	6141	SI PHRAYA-CHAROEN KRUNG
92.	142	6142	CHUA PHLOENG-RAMA IV-DIN DAENG PORT EXPRESSWAY
93.	143	6143	RATCHAPRAROP-SI AYUTTHAYA
94.	144	6144	NA PHRA LAN-LAK MUANG-SANAM CHAI
95.	147	6147	BAMRUNG MUANG-TI THONG
96.	148	6148	BAMRUNG MUANG-UNAKAN
97.	160	6160	YUKHOL 2-BAMRUNG MUANG
98.	161	6161	PHLAPPLA CHAI-BAMRUNG MUANG
99.	162	6162	SOI SUKHUMVIT 21 (ASOK)-SOI WATTHANA 1
100.	163	6163	VIBHAVADI RANGSIT-DIN DAENG

No.	Intersection No.	Drawing No.	Intersection Name
101.	164	6164	PRACHA SONGKHRO-ASOK DIN DAENG
102.	175	6175	SI LOM-SOI PHIPHAT (BANGKOK BANK)
103.	176	6176	FUANG NAKHON-CHAROEN KRUNG
104.	177	6177	TANAO-BAMRUNG MUANG-FUANG NAKHON
105.	184	6184	RAMA I-RAMA VI-CHARU MUANG
106.	185	6185	RAMA IV-CHARU MUANG-MAHA NAKHON
107.	188	6188	SURAWONG-DECHO
108.	189	6189	ATSADANG-BAMRUNG MUANG
109.	191	6191	ATSADANG-PHRA PHITHAK
110.	194	6194	RATCHADAPHISEK-ASOK DIN DAENG-RAMA IX
111.	196	6196	SARASIN-RATCHADAMRI
112.	197	6197	SARASIN-SOI LANG SUAN
113.	198	6198	SARASIN-WITTHAYU-SOI RUAM RUDI
114.	199	6199	RATCHADAPHISEK-SUNTHON KOSA-RAMA III-NA RANONG
115.	214	6214	SATHON-CHAROEN KRUNG
116.	215	6215	SATHON NUA-SURASAK
117.	217	6217	SATHON NUA-PAN
118.	219	6219	SATHON-SOI SUKSA WITTHAYA (BANG RAK HOSPITAL)
119.	221	6221	SATHON NUA-PHIPHAT
120.	222	6222	SATHON NUA-CONVENT
121.	224	6224	SATHON (U-TURN NEAR SOI ATTHAKAN PRASIT)
122.	227	6227	DEMOCRACY MONUMENT 1
123.	228	6228	DEMOCRACY MONUMENT 2
124.	232	6232	BANTHAT THONG-SOI CHULALONGKORN 16
125.	236	6236	PHETCHABURI-SOI CHIT LOM
126.	237	6237	SUKHUMVIT-SOI SUKHUMVIT 11
127.	238	6238	SUKHUMVIT-SOI SUKHUMVIT 19
128.	245	6245	CHARU MUANG-CHARAT MUANG
129.	254	6254	VICTORY MONUMENT-PHAYON YOTHIN
130.	255	6255	VICTORY MONUMENT-RATCHAWITHI (EAST)
131.	256	6256	VICTORY MONUMENT-PHAYA THAI
132.	257	6257	RATCHAWITHI (WEST)-VICTORY MONUMENT
133.	266	6266	SURAWONG-SAP
134.	904	6904	NIKHOM MAKKASAN-SOI PHETCHABURI 31
135.	905	6905	SI PHRAYA-SAP
136.	706	6706	HIGHWAY-PHAYON YOTHIN
137.	707	6707	HIGHWAY-ASOK-DIN DAENG
138.	708	6708	HIGHWAY-RAMA IX
139.	801	6801	U-TURN AT ASOK DIN DAENG (WEST)
140.	802	6802	U-TURN AT ASOK DIN DAENG (EAST)
141.	803	6803	U-TURN AT PHAYA THAI (ASIA HOTEL)
142.	804	6804	U-TURN AT SUKHUMVIT (NEAR SOI SUKHUMVIT 18)
143.	805	6805	U-TURN AT RAMA IV
144.	P 1	6084	TRIPHET (TRAFFIC POLICE DIVISION)
145.	P 2	6084	TRIPHET (NEAR SOI WATLEAP)
146.	P 3	6052	CHAROENKRUNG (SOI CHAROENKRUNG 21)

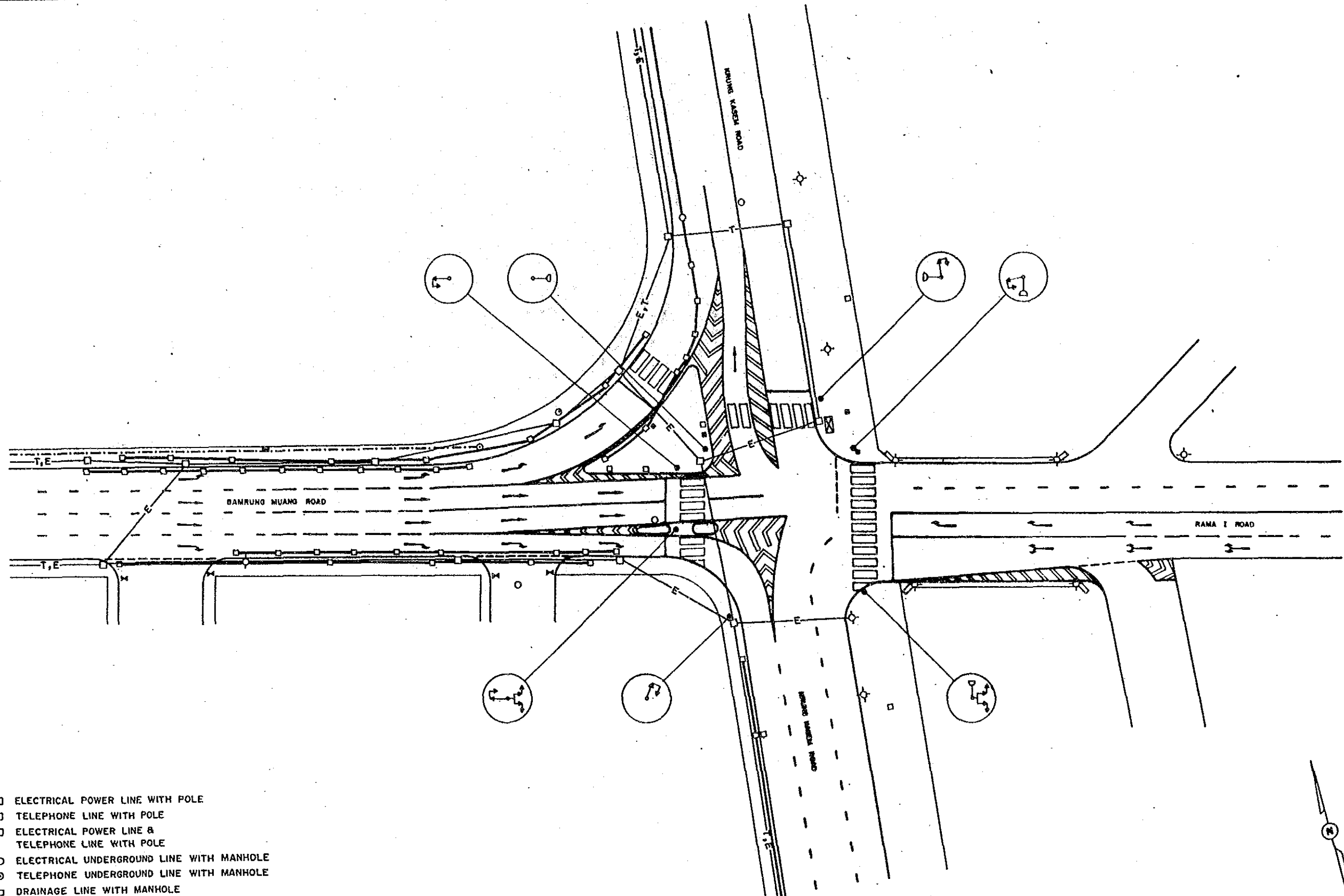
Note:  Newly signalled intersection
 Highway at Int.No.706,707,708 means highway yet to be constructed
 INT. No. P1, P2, P3 are Pedestrian crossing signals.
 INT. No. 35, 40, 43, 54, 99, 142, 143 are Railroad Pre-emption Control signals.
 INT. No. 227, 228 are controlled by one local controller.
 INT. No. 254, 255, 256, 257 are controlled by one local controller.



- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
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 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
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 - TELEPHONE CAB
 - ⏏ PUBLIC TELEPHONE

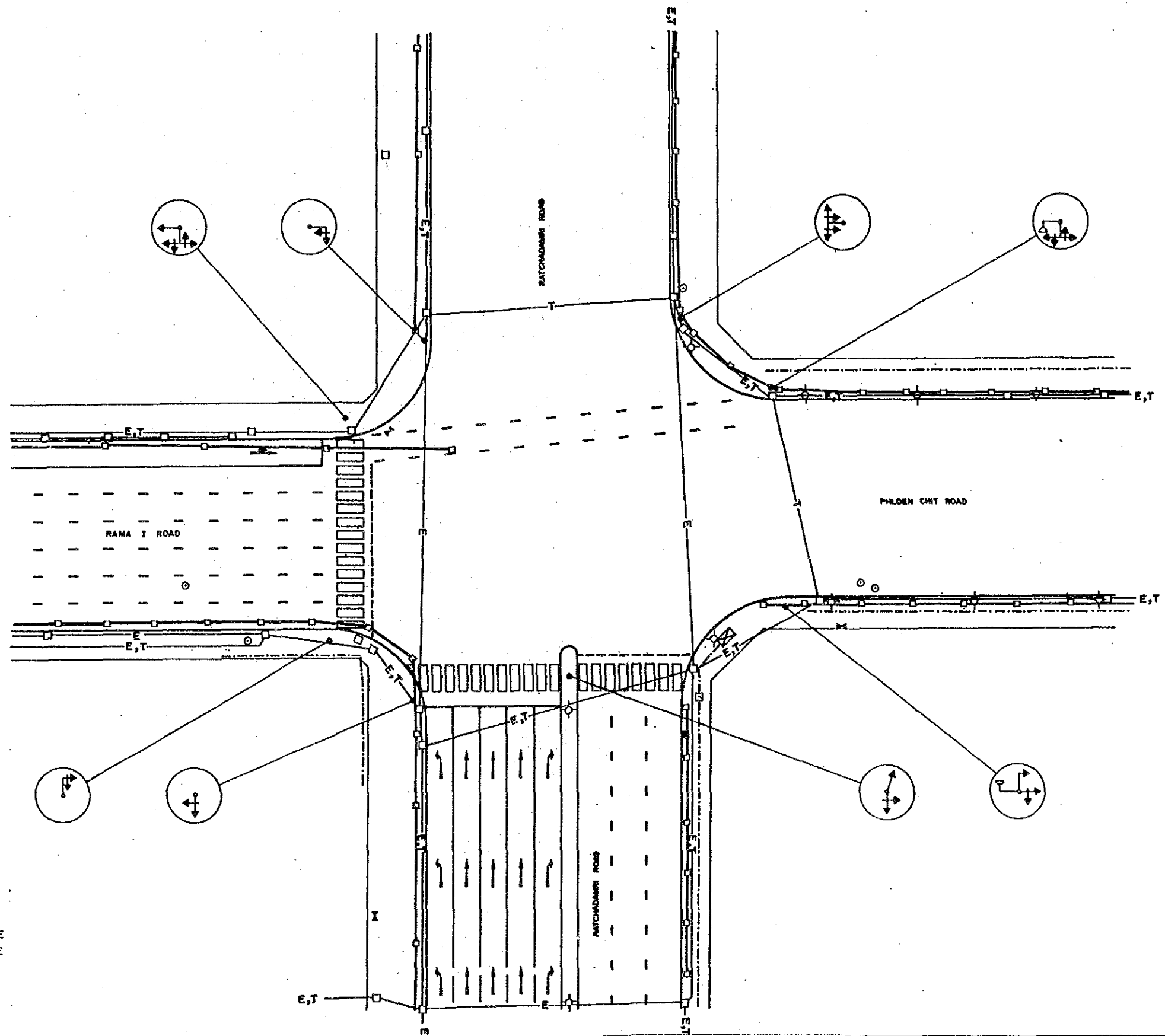
BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT: STAGE I
EXISTING UTILITY LINES AT INTERSECTION
RAMA VI-PHETCHABURI

INTERSECTION NO		Survey in MAY 1990	
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale 1/500	Drawing No 6001
		Date SEPTEMBER '90	Total 1/143



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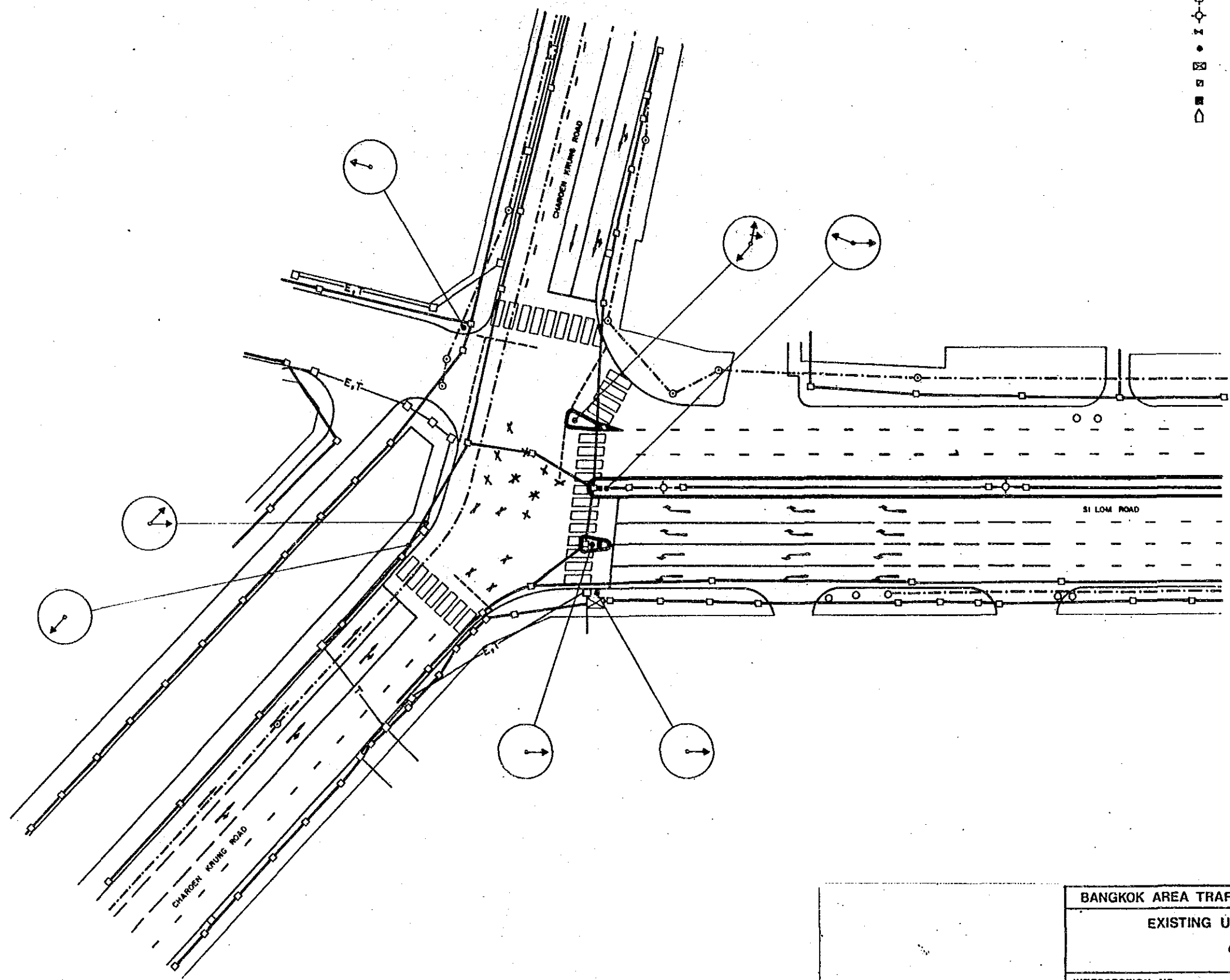
BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
KRUNG KASEM-BAMRUNG MUANG			
INTERSECTION NO	2	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Drawing No	8002
		Date	SEPTEMBER 1990
		Total	2 / 143



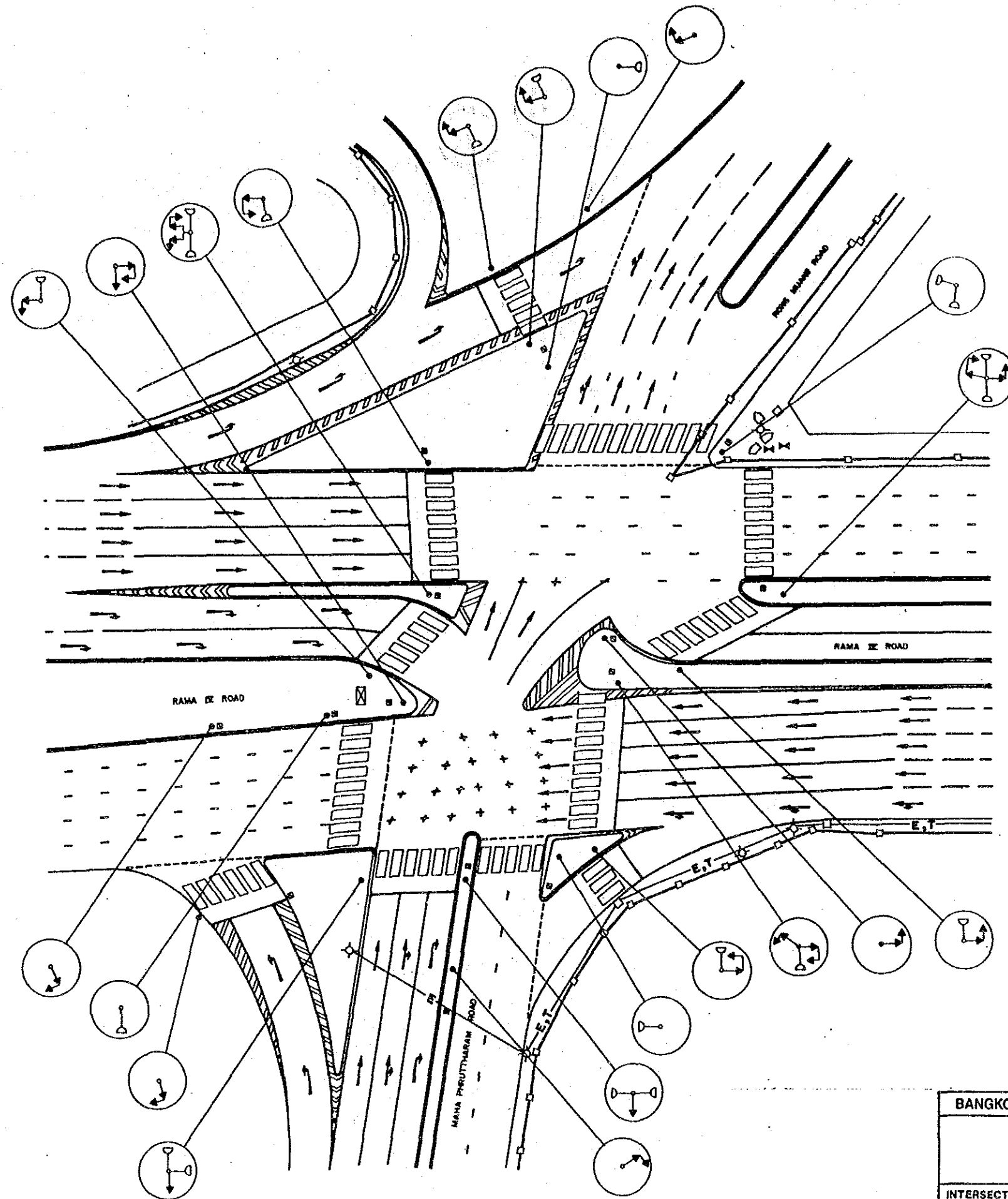
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BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT: STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
RATCHADAMRI-RAMA I-PHLOEN CHIT			
INTERSECTION NO	3	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
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		Drawing No	8003
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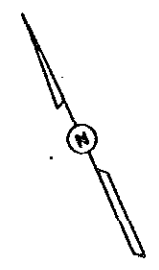
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 - ⊕ TRAFFIC SIGNAL CONTROLLER
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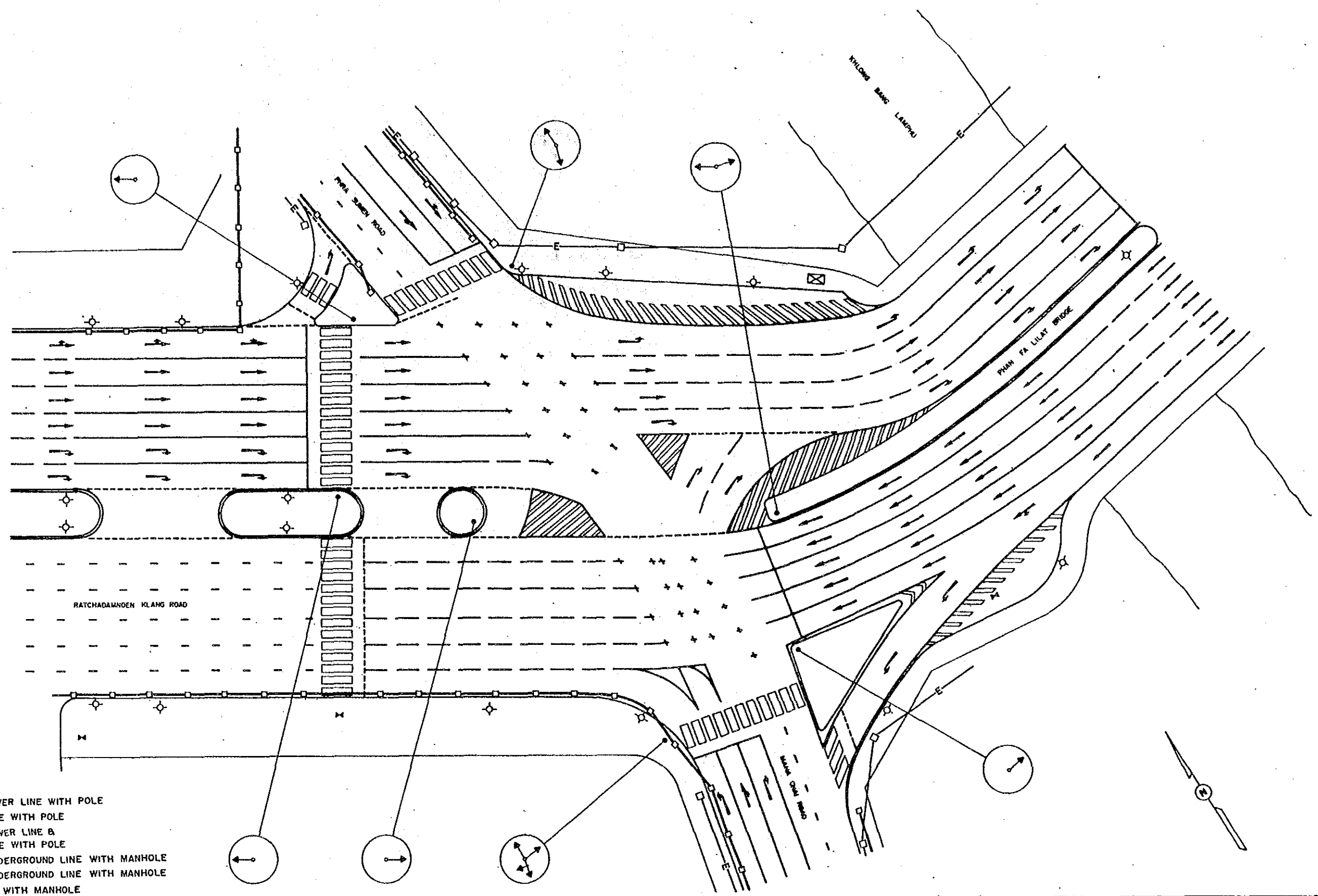
BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT: STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
CHAROEN KRUNG-SI LOM			
INTERSECTION NO	4	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Drawing NO	6004
		Date	SEPTEMBER / 90
		Total	4 / 143



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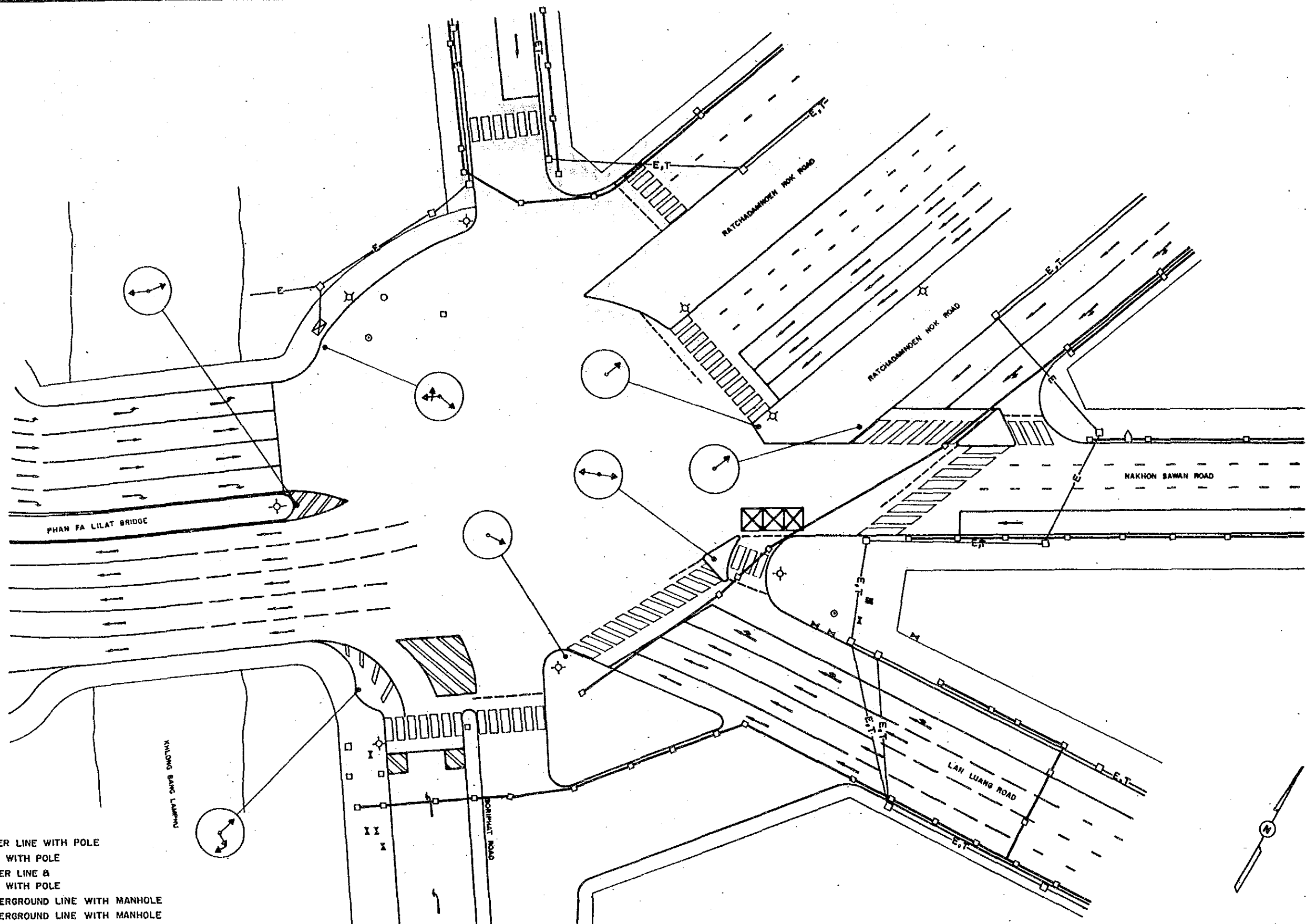
BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
MAHA PHRUTTHARAM-RAMA IV-RONG MUANG			
INTERSECTION NO	8	Survey In	MAY 1980
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 82
		Drawing No	8008
		Total	8 / 143



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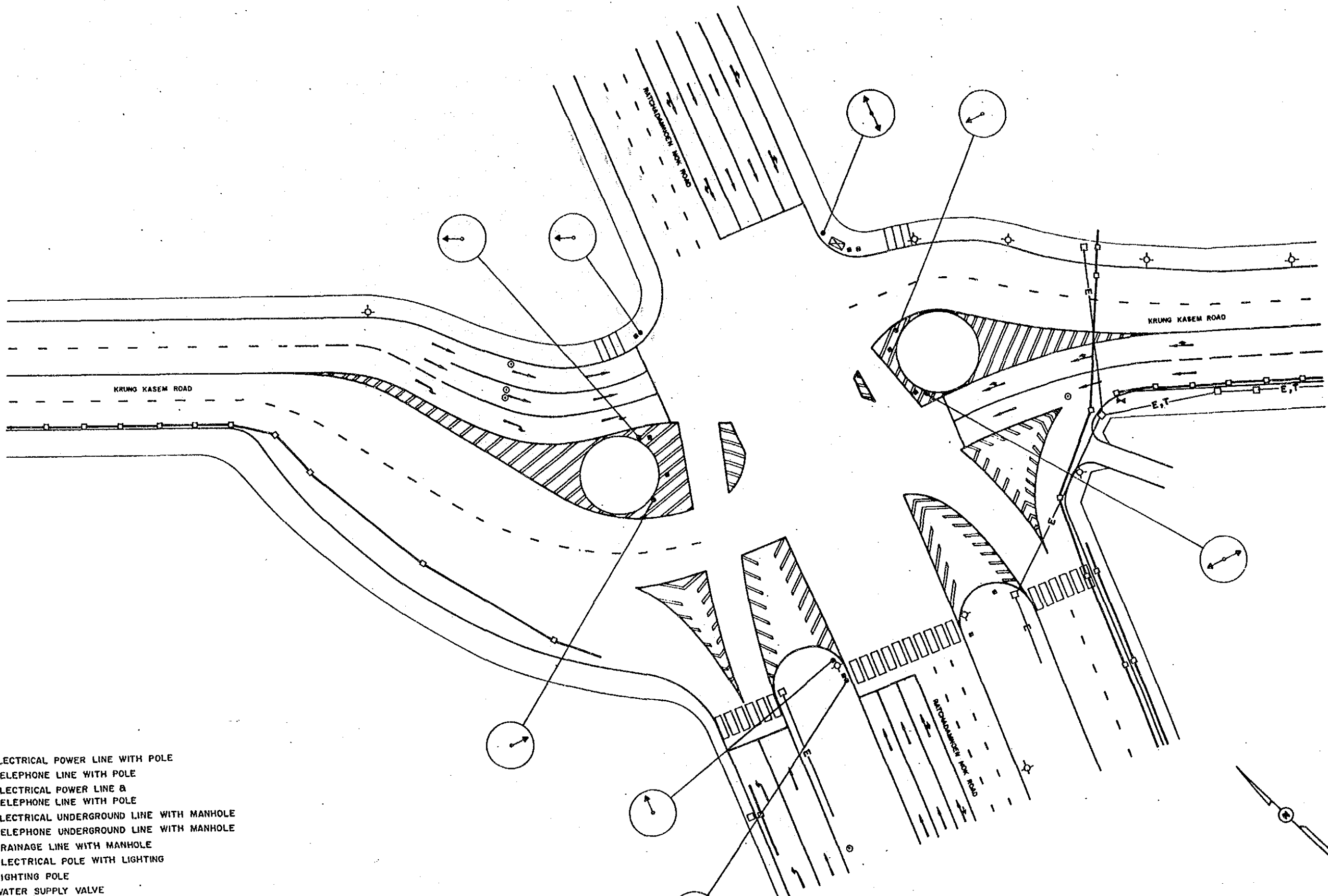
- E—□ ELECTRICAL POWER LINE WITH POLE
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- ⊙ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
RATCHADAMNOEN KLANG-PHRA SUMEN-MAHA CHAI			
INTERSECTION NO	9	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 1990
		Drawing No	6009
		Total	6 / 143



- LEGEND**
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BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT: STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
'LAN LUANG-RATCHADAMNOEN NOK-NAKHON SAWAN			
INTERSECTION NO	10	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 90
		Drawing No	8010
		Total	7 / 143



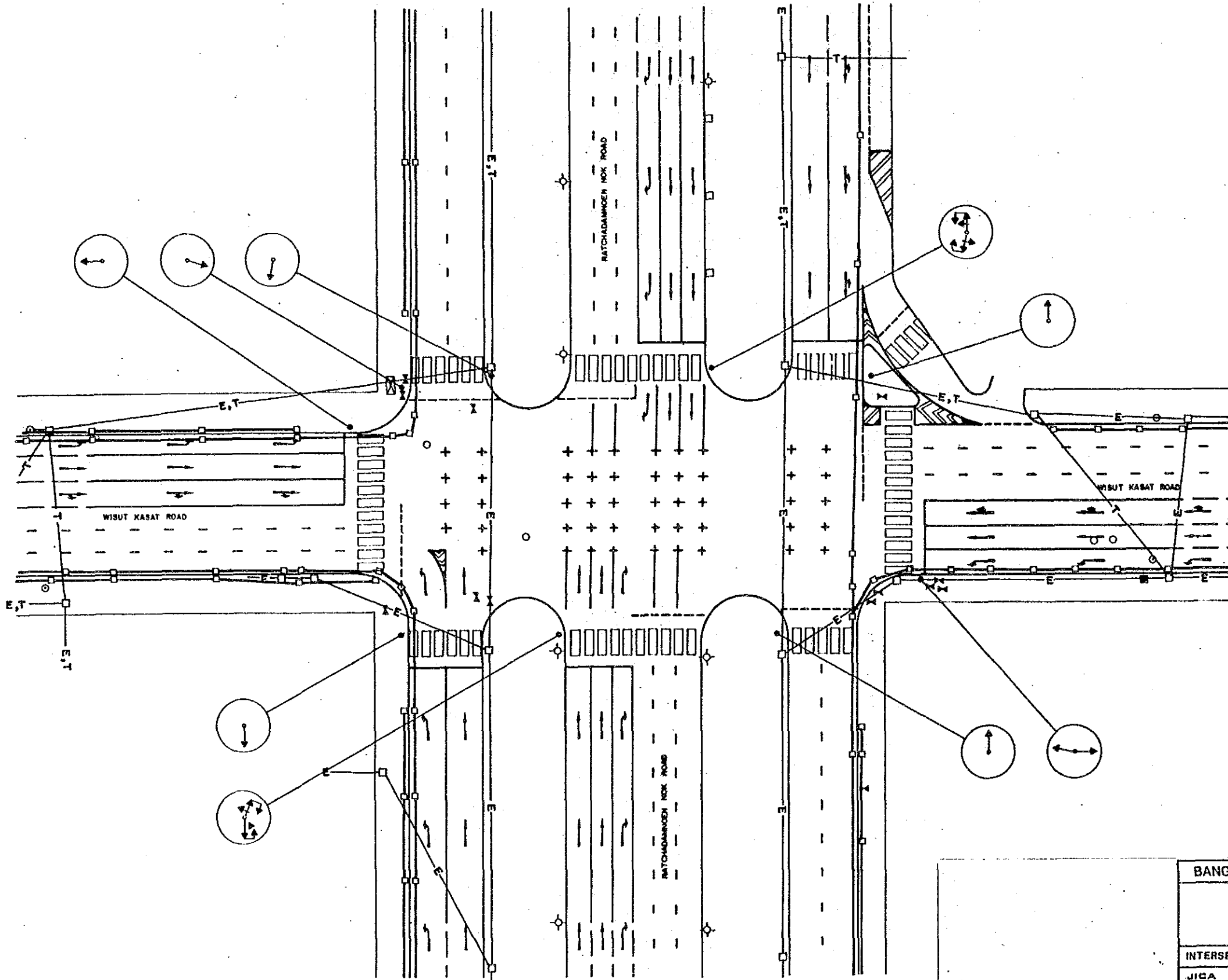
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BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
RATCHADAMNOEN NOK-KRUNG KASEM			
INTERSECTION NO	11	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 1990
		Drawing No	6011
		Total	8 / 143

LEGEND

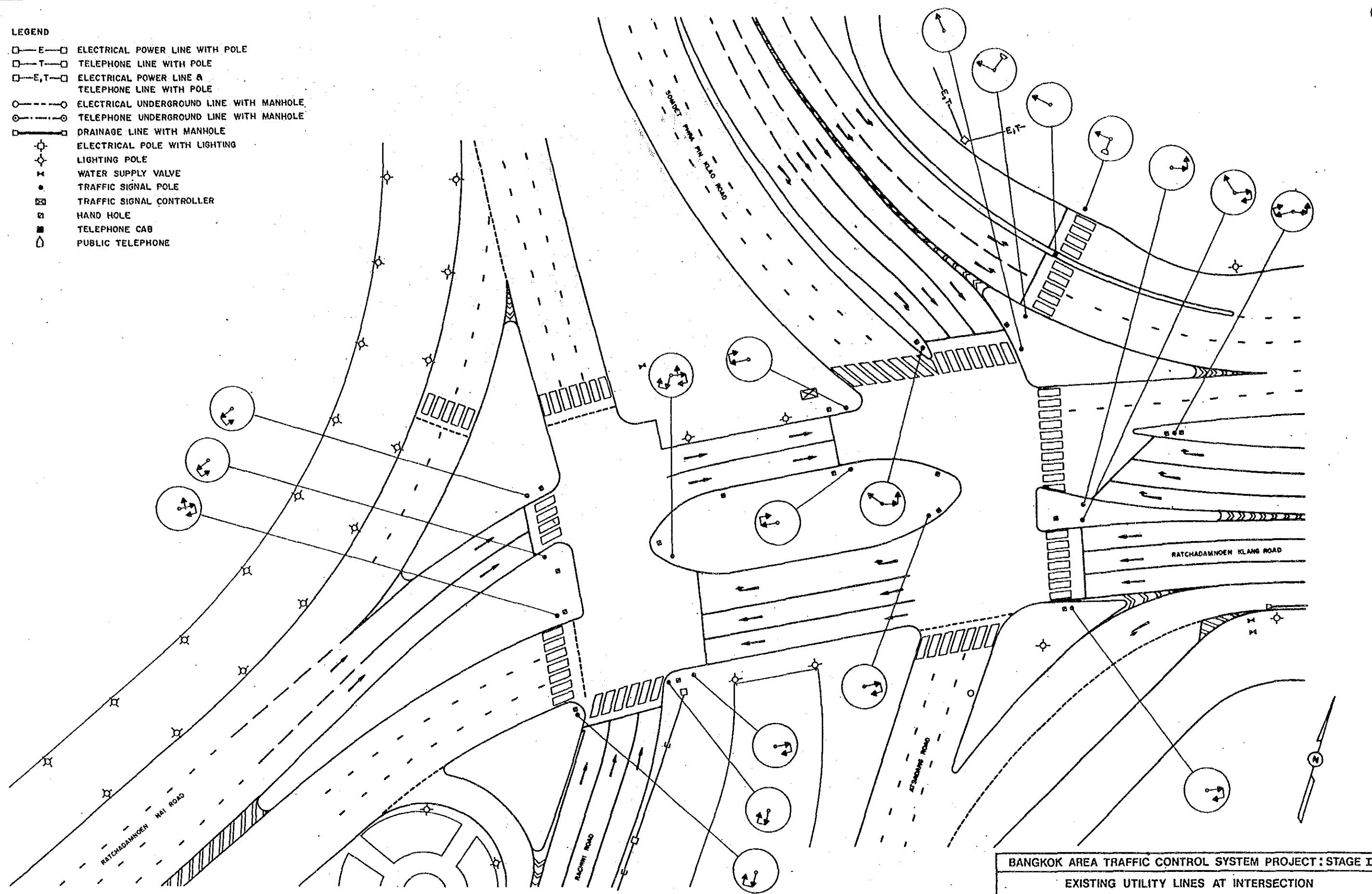
- E-□ ELECTRICAL POWER LINE WITH POLE
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- HAND HOLE
- TELEPHONE CAB
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BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
RATCHADAMNOEN NOK-WISUT KASAT			
INTERSECTION NO	12	Survey in	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500 Drawing NO 6012
		Date	SEPTEMBER 90 Total 9 / 143

LEGEND

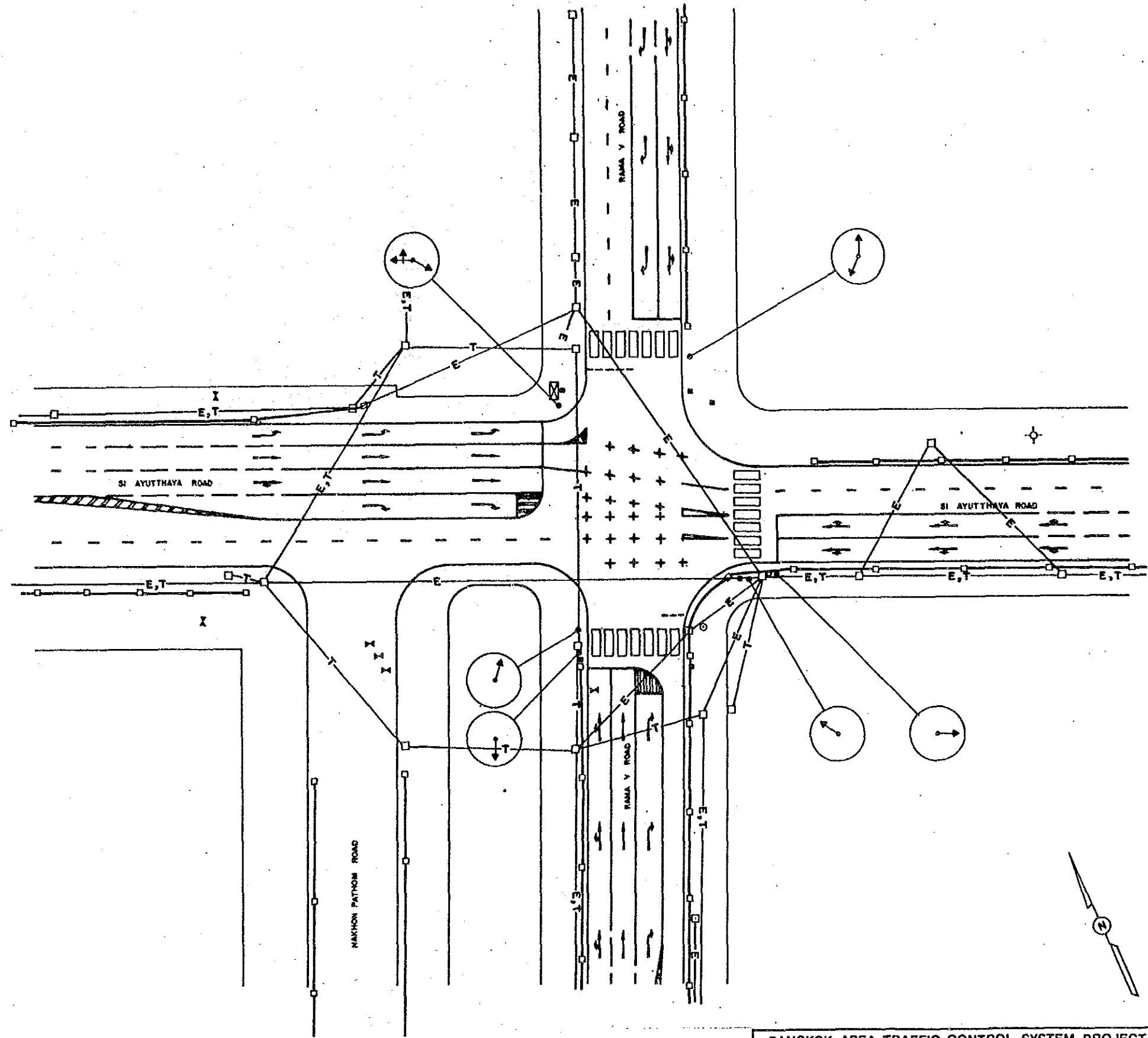
- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊕ LIGHTING POLE
- ⊕ WATER SUPPLY VALVE
- ⊕ TRAFFIC SIGNAL POLE
- ⊕ TRAFFIC SIGNAL CONTROLLER
- ⊕ HAND HOLE
- ⊕ TELEPHONE CAB
- ⊕ PUBLIC TELEPHONE



BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT: STAGE I

EXISTING UTILITY LINES AT INTERSECTION
RATCHADAMNOEN KLANG-RATCHADAMNOEN NAI

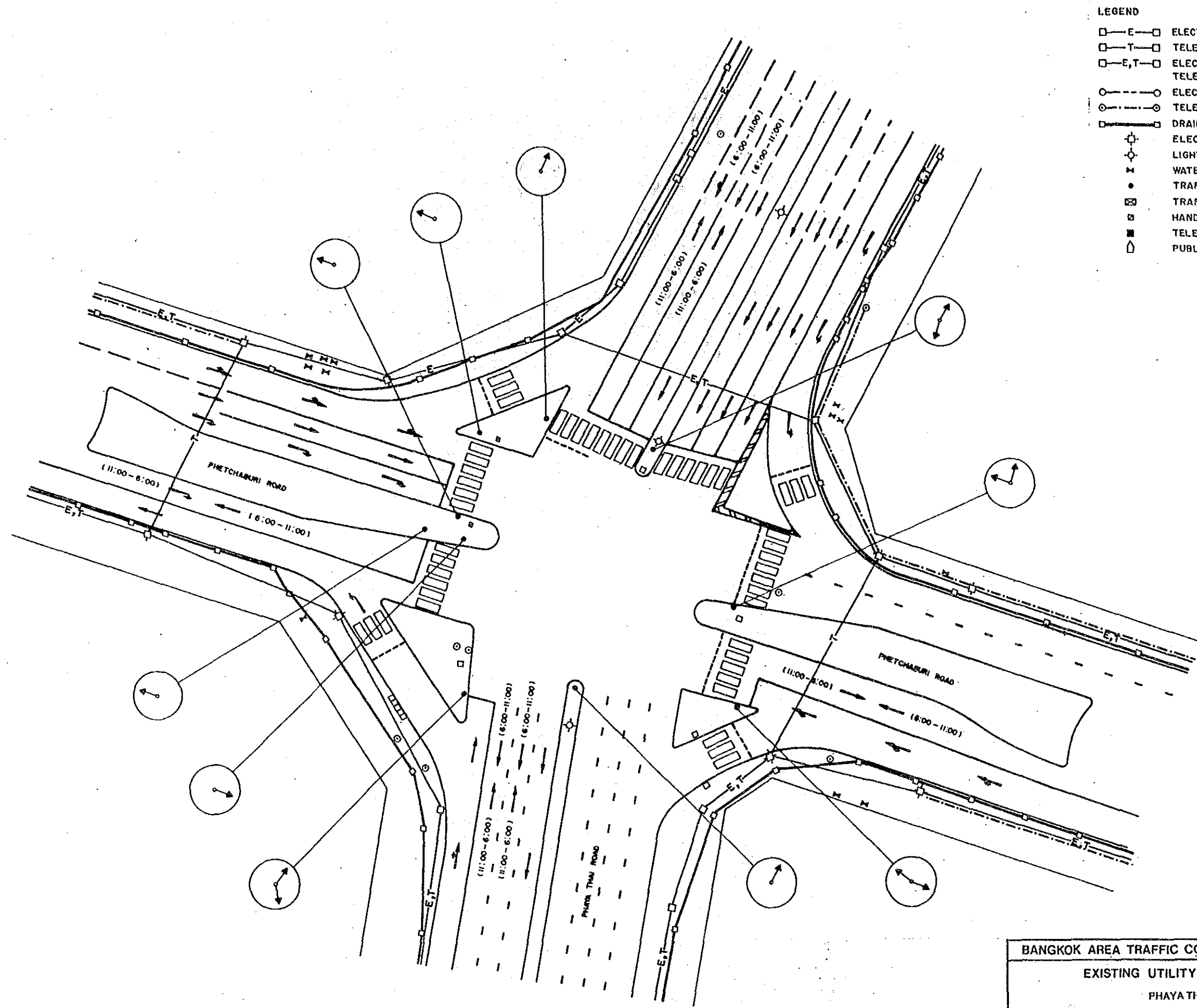
INTERSECTION NO	13	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 1991
		Drawing No	8013
		Total	10 / 143



LEGEND

- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- X—X DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊙ LIGHTING POLE
- ⊗ WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊠ TRAFFIC SIGNAL CONTROLLER
- HAND HOLE
- TELEPHONE CAB
- △ PUBLIC TELEPHONE

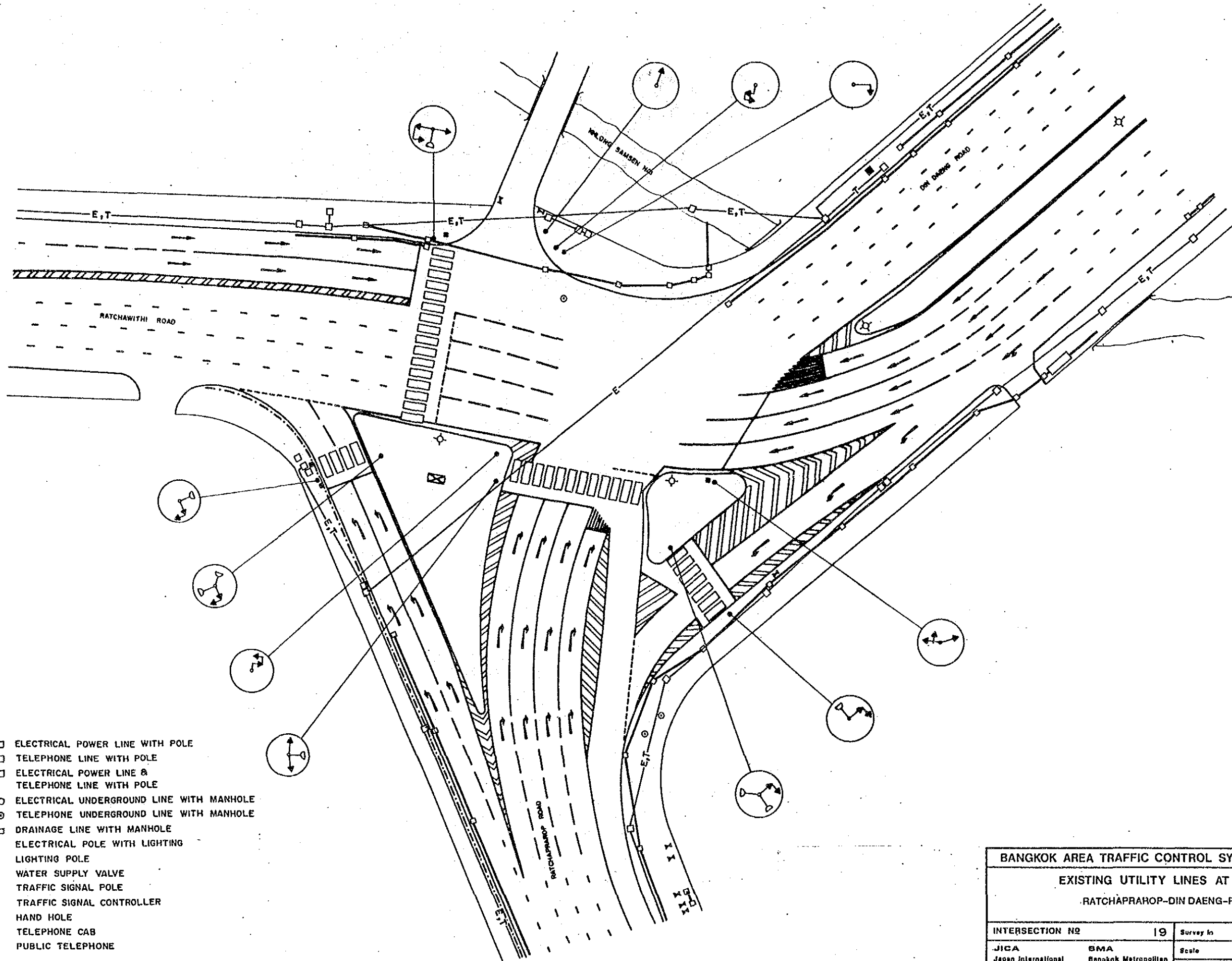
BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
RAMA V-SI AYUTTHAYA			
INTERSECTION NO	15	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Drawing No	6015
		Date	(SEPTEMBER) 90
		Total	11 / 143



- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊕ LIGHTING POLE
 - ⊕ WATER SUPPLY VALVE
 - ⊕ TRAFFIC SIGNAL POLE
 - ⊕ TRAFFIC SIGNAL CONTROLLER
 - ⊕ HAND HOLE
 - ⊕ TELEPHONE CAB
 - ⊕ PUBLIC TELEPHONE

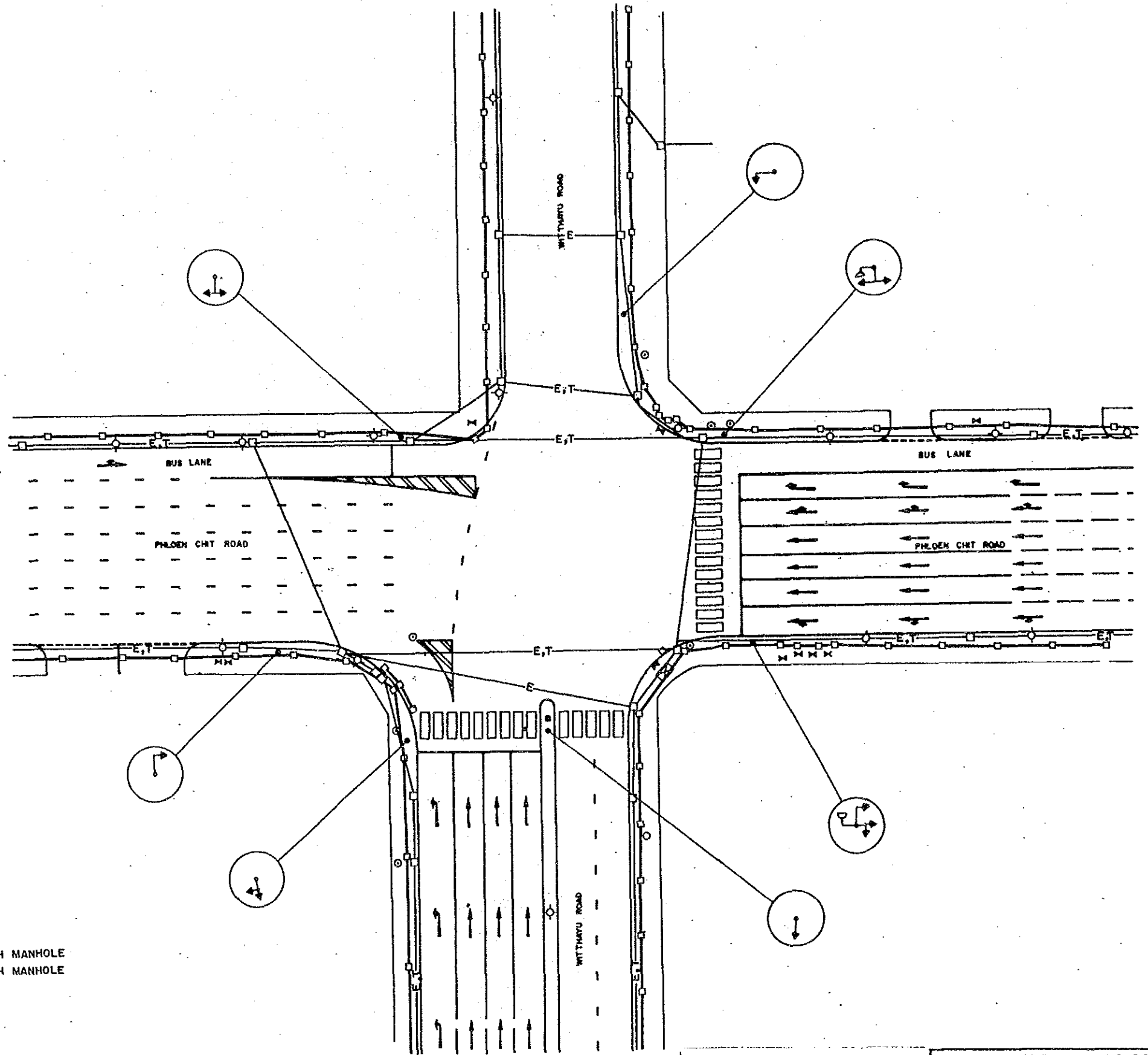


BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT: STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
PHAYA THAI-PHETCHABURI			
INTERSECTION NO	18	Survey in	MAY 1980
JICA	BMA	Scale	1 / 500
Japan International	Bangkok Metropolitan	Date	SEPTEMBER 1980
Cooperation Agency	Administration	Drawing No	6018
		Total	12 / 145



- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - - -○ ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - - -○ TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - — — — — DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊙ LIGHTING POLE
 - ⋈ WATER SUPPLY VALVE
 - TRAFFIC SIGNAL POLE
 - ⊠ TRAFFIC SIGNAL CONTROLLER
 - ⊞ HAND HOLE
 - ⊞ TELEPHONE CAB
 - ⊞ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
RATCHAPRAHOP-DIN DAENG-RATCHAWITHI			
INTERSECTION NO	19	Survey In	MAY 1990
JICA	SMA	Scale	1 / 500
Japan International	Bangkok Metropolitan	Cooperation Agency	Administration
		Date	SEPTEMBER 1990
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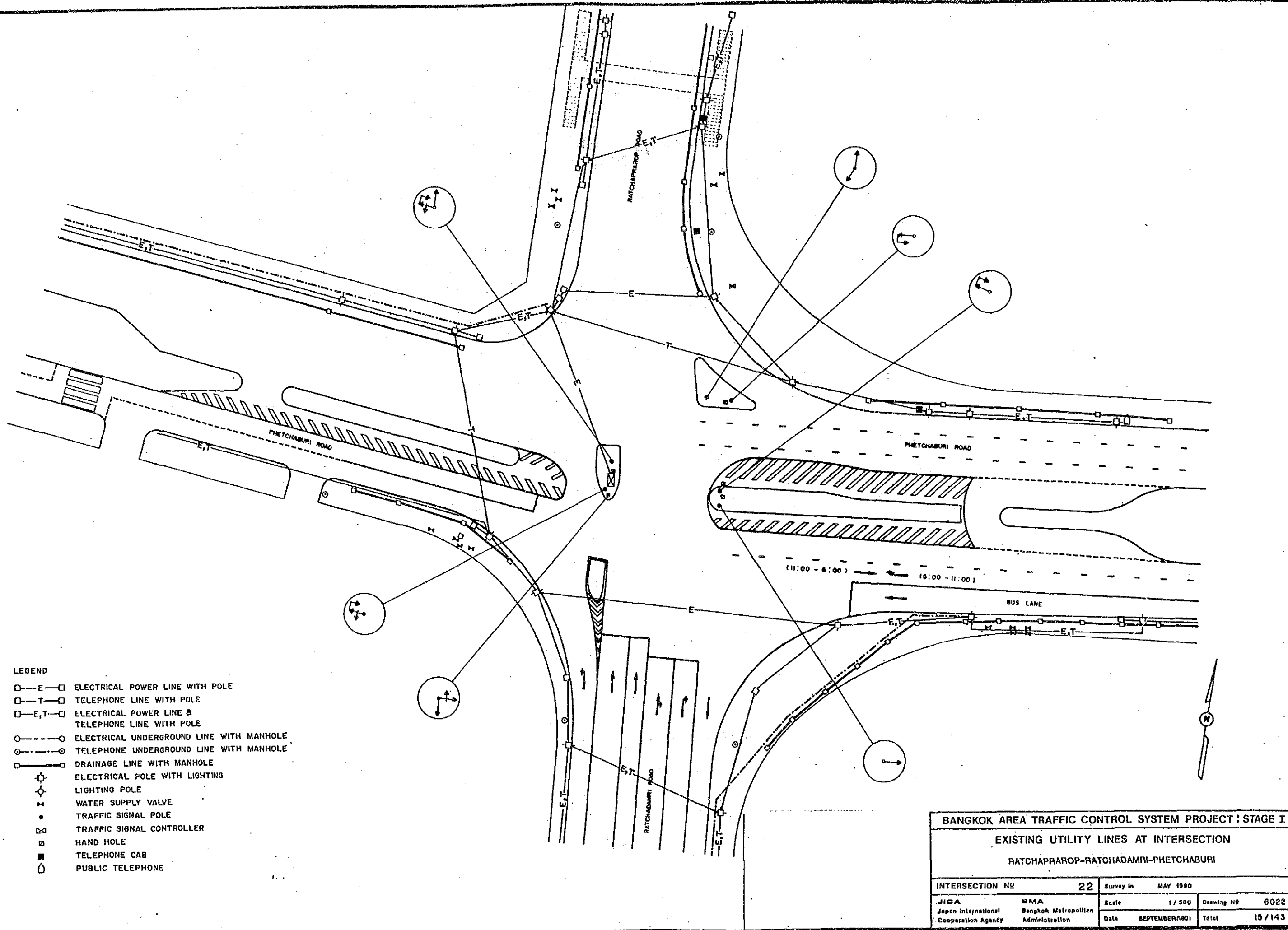
- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊙ LIGHTING POLE
- ⊕ WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊠ TRAFFIC SIGNAL CONTROLLER
- ⊞ HAND HOLE
- ⊞ TELEPHONE CAB
- ⊞ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I

EXISTING UTILITY LINES AT INTERSECTION

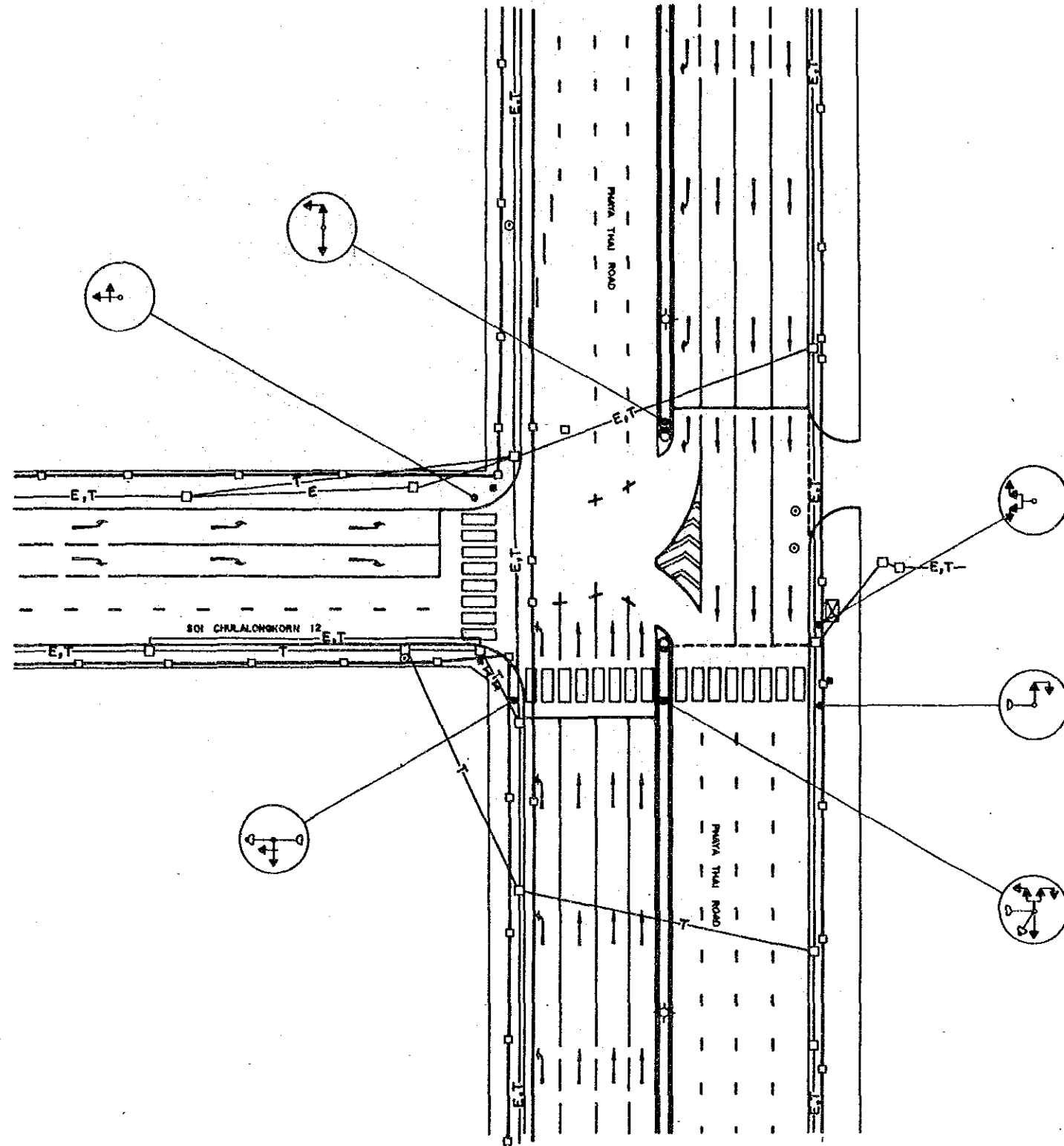
WITTHAYU-PHLOEN CHIT

INTERSECTION NO		20	Survey In		MAY 1990
JICA	BMA	Scale	1 / 500	Drawing NO	6020
Japan International	Bangkok Metropolitan	Date	SEPTEMBER 1990	Total	14 / 143
Cooperation Agency	Administration				



- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊕ LIGHTING POLE
 - × WATER SUPPLY VALVE
 - TRAFFIC SIGNAL POLE
 - ⊠ TRAFFIC SIGNAL CONTROLLER
 - HAND HOLE
 - TELEPHONE CAB
 - ⏏ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
RATCHAPRAROP-RATCHADAMRI-PHETCHABURI			
INTERSECTION NO	22	Survey in	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 1991
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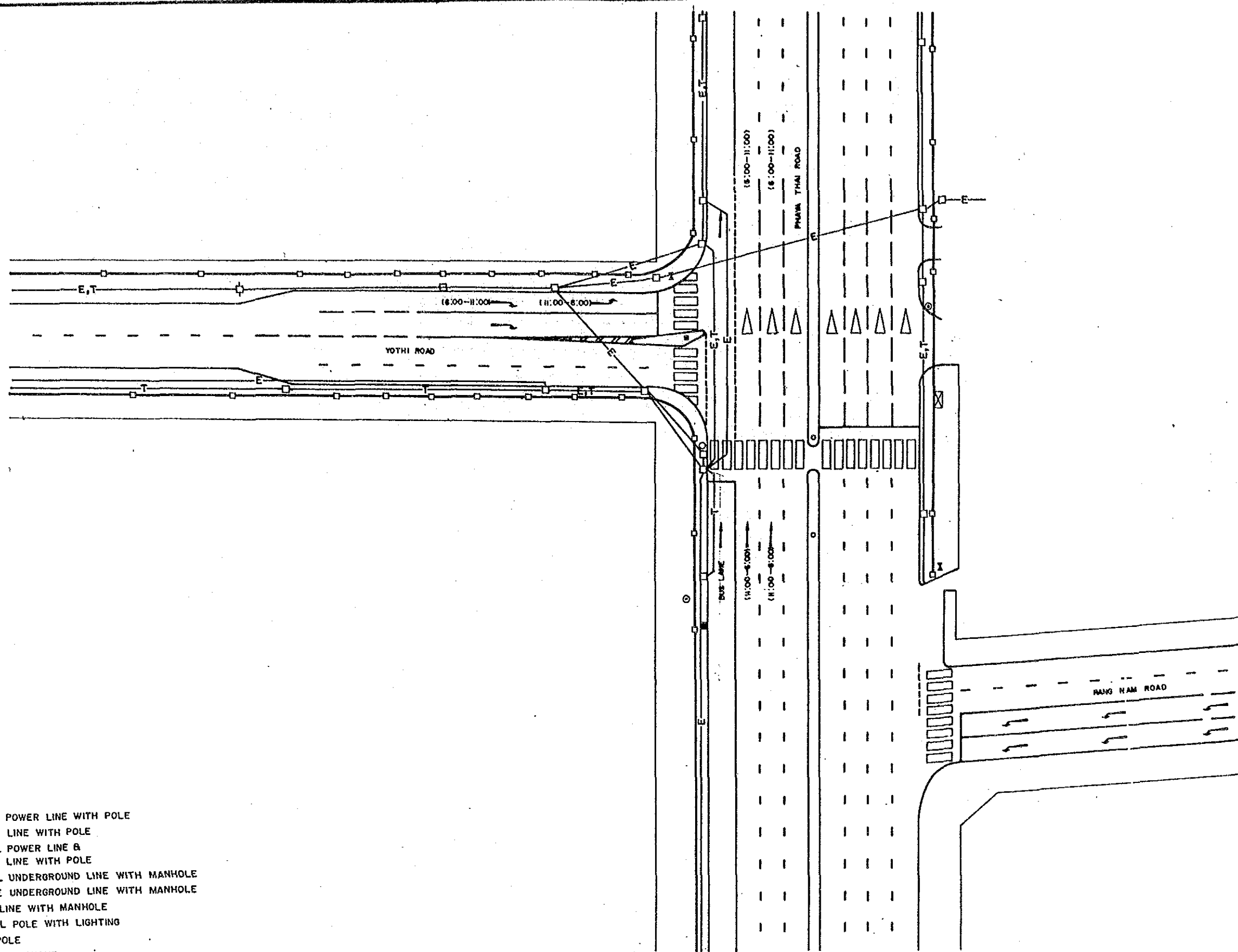


LEGEND

- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- D—DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊙ LIGHTING POLE
- ⋈ WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊠ TRAFFIC SIGNAL CONTROLLER
- ⊞ HAND HOLE
- TELEPHONE CAB
- ⏏ PUBLIC TELEPHONE



BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
PHAYA THAI-SOI CHULALONGKORN 12			
INTERSECTION NO	24	Survey In	MAY 1990
JICA	BMA	Scale	1 / 500
Japan International	Bangkok Metropolitan	Drawing NO	6024
Cooperation Agency	Administration	Date	SEPTEMBER 1990
		Total	16 / 143



- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊙ LIGHTING POLE
 - ⊗ WATER SUPPLY VALVE
 - ⊙ TRAFFIC SIGNAL POLE
 - ⊗ TRAFFIC SIGNAL CONTROLLER
 - ⊕ HAND HOLE
 - ⊗ TELEPHONE CAB
 - △ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT: STAGE I

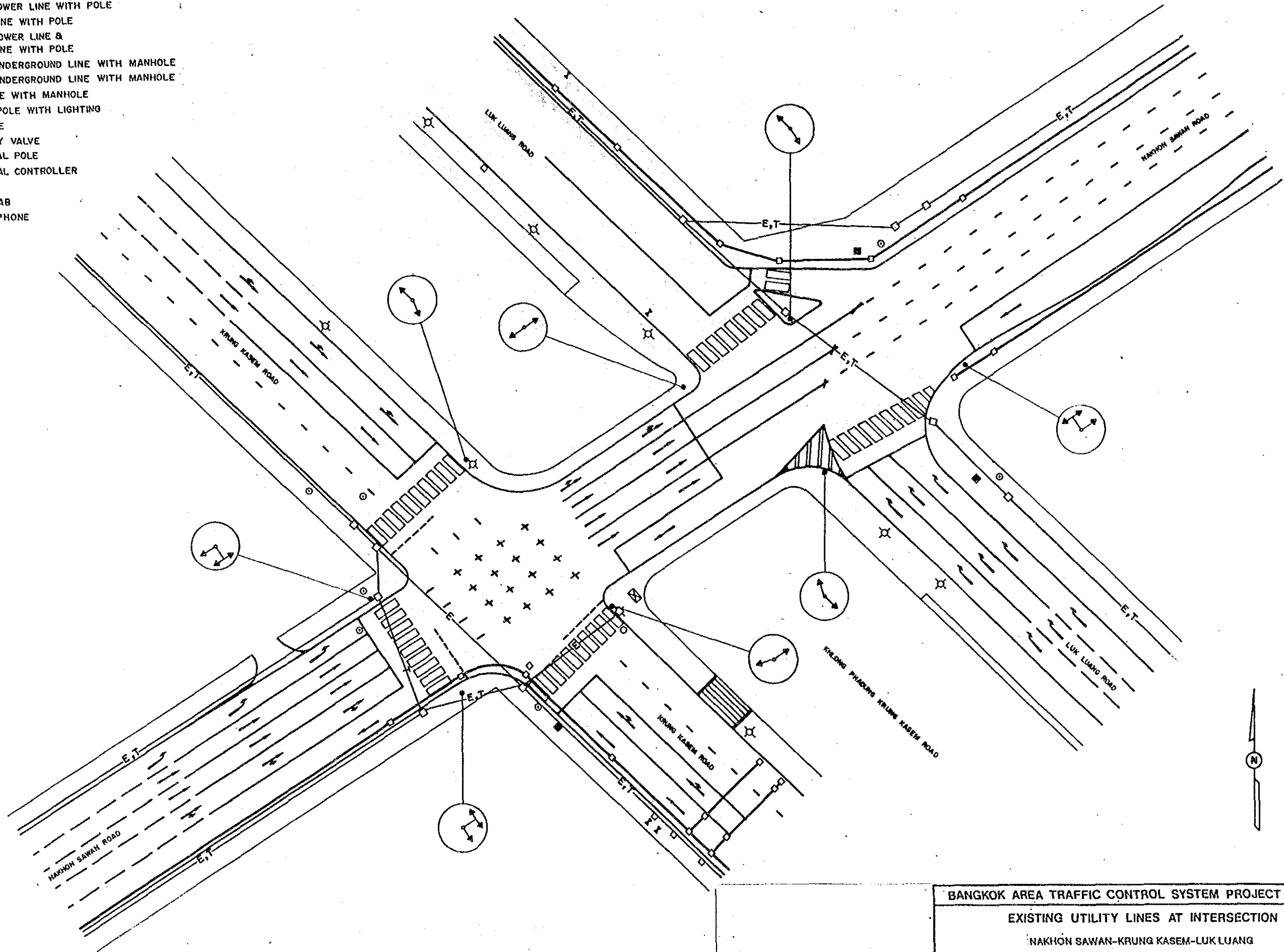
EXISTING UTILITY LINES AT INTERSECTION

PHAYA THAI-YOTHI-RANG NAM

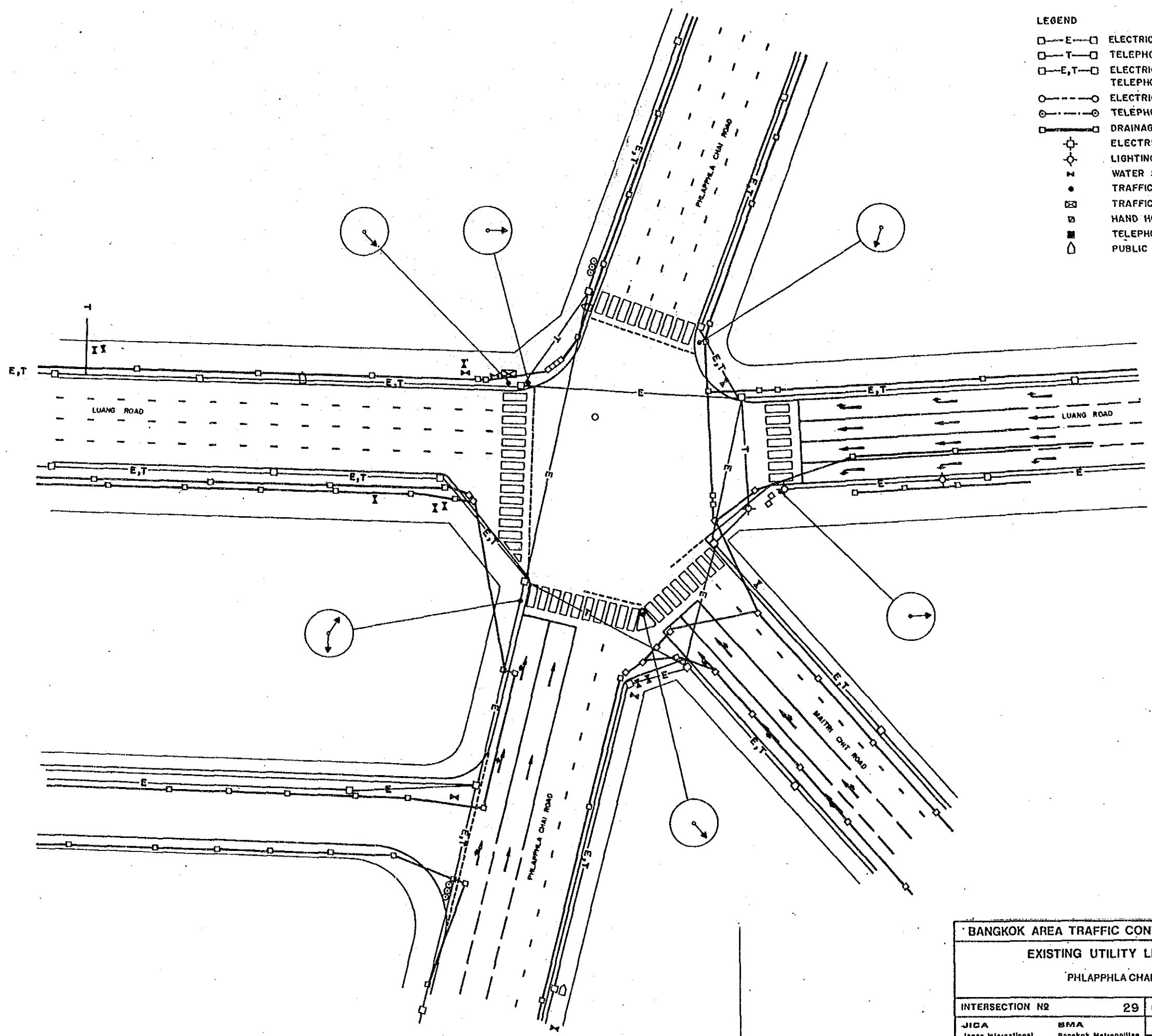
INTERSECTION NO 25		Survey In MAY 1990	
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale 1 / 500	Drawing No 6025
		Date SEPTEMBER 1990	Total 17 / 143

LEGEND

- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊕ LIGHTING POLE
- ⊕ WATER SUPPLY VALVE
- ⊕ TRAFFIC SIGNAL POLE
- ⊕ TRAFFIC SIGNAL CONTROLLER
- ⊕ HAND HOLE
- ⊕ TELEPHONE CAB
- ⊕ PUBLIC TELEPHONE

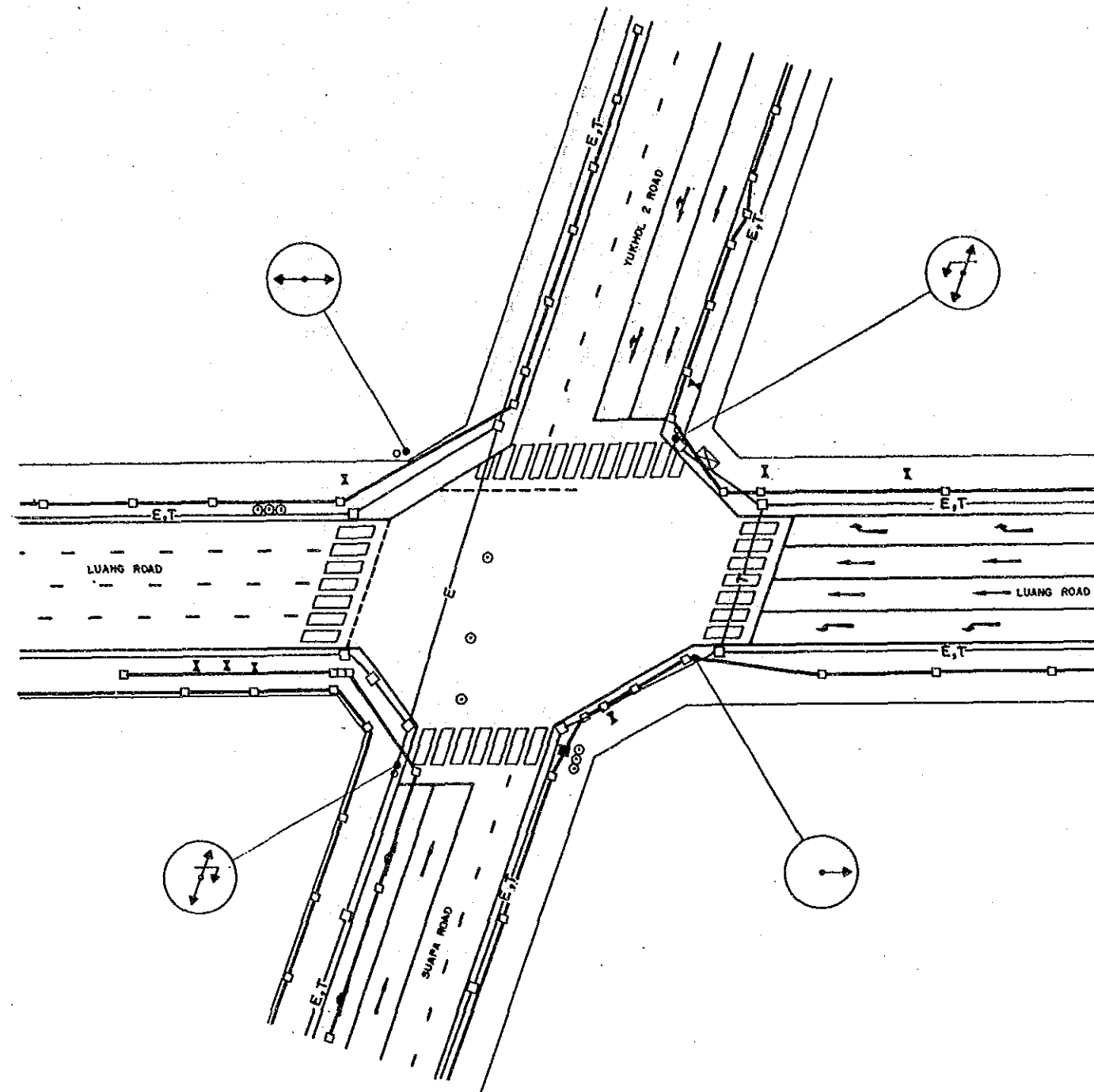


BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
NAKHON SAWAN-KRUNG KASEM-LUK LUANG			
INTERSECTION NO	26	Survey in	MAY 1980
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 80
		Drawing No	6026
		Total	18 / 143



- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊕ LIGHTING POLE
 - ⊕ WATER SUPPLY VALVE
 - TRAFFIC SIGNAL POLE
 - ⊠ TRAFFIC SIGNAL CONTROLLER
 - ⊠ HAND HOLE
 - TELEPHONE CAB
 - ⏏ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
PHLAPPLA CHAI-LUANG-MAITRI CHIT			
INTERSECTION NO	29	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 93
		Drawing No	6029
		Total	19 / 143

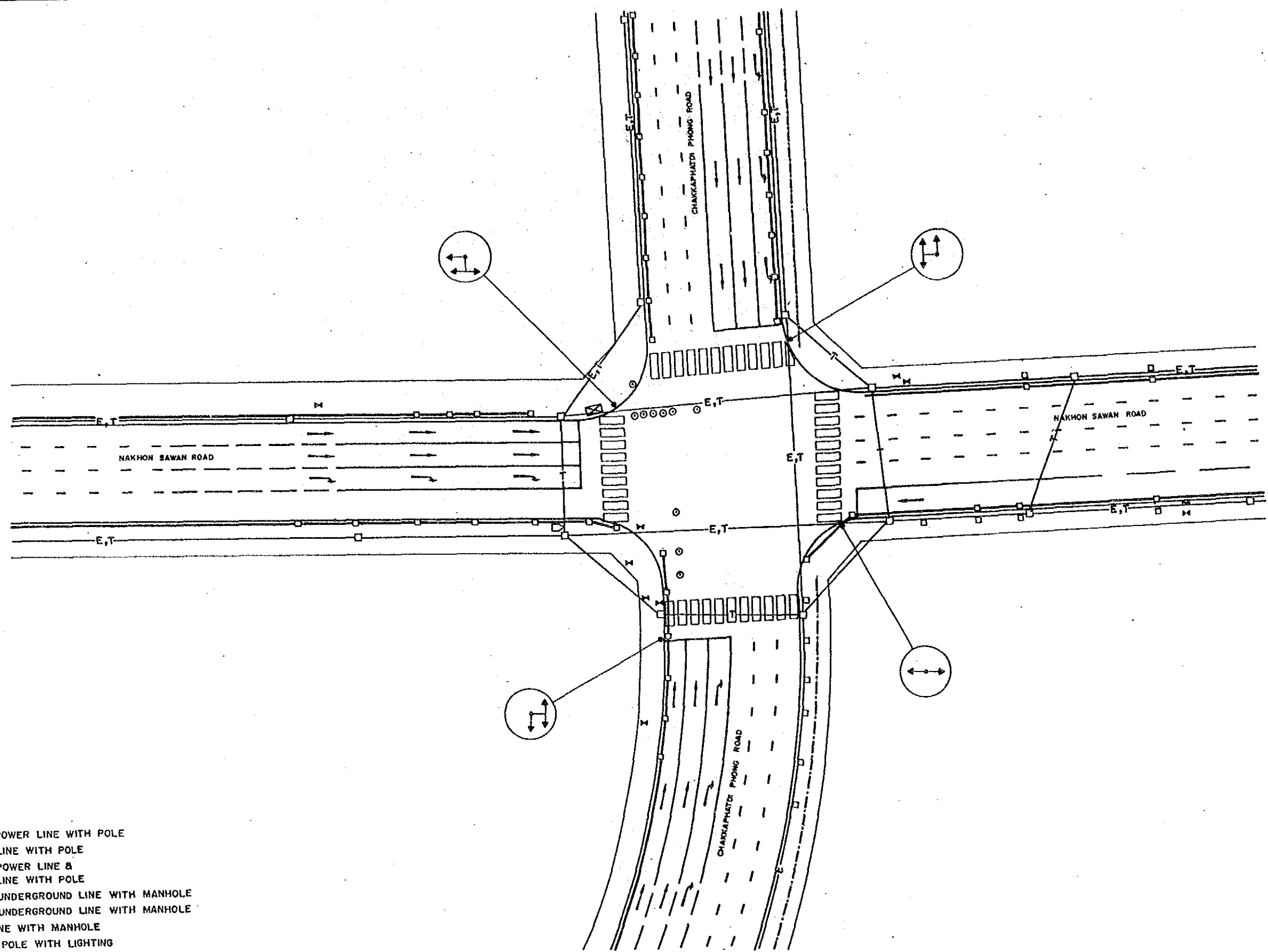


LEGEND

- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊙ LIGHTING POLE
- ⋈ WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊠ TRAFFIC SIGNAL CONTROLLER
- ⊞ HAND HOLE
- ⊞ TELEPHONE CAB
- ⊞ PUBLIC TELEPHONE



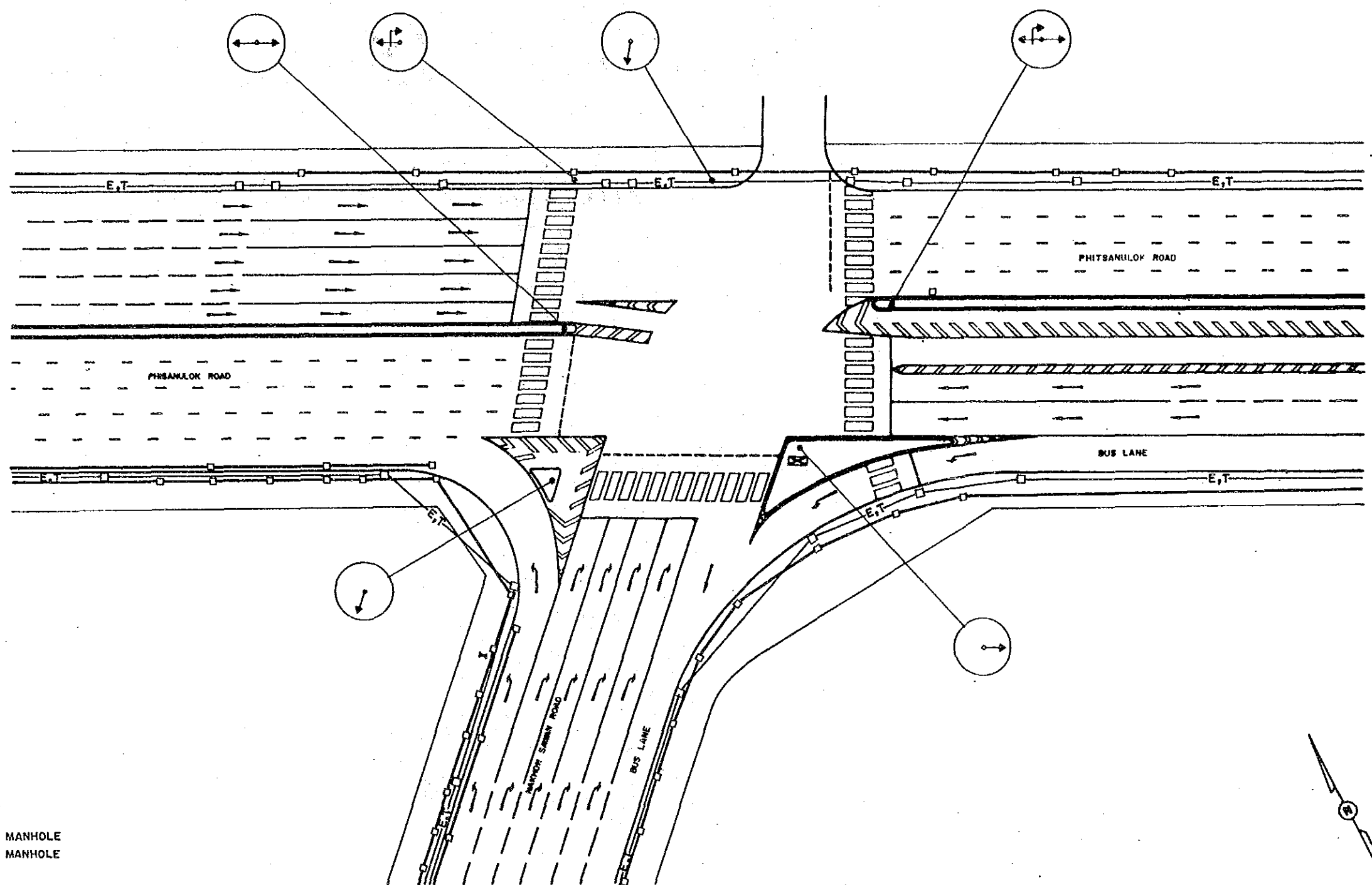
BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
SUAPA-LUANG-YUKHOL 2			
INTERSECTION NO	30	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 90
		Drawing No	8030
		Total	20 / 143



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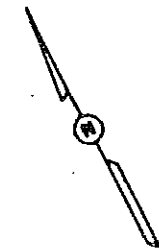
- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- LIGHTING POLE
- × WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊠ TRAFFIC SIGNAL CONTROLLER
- ⊞ HAND HOLE
- TELEPHONE CAB
- ⌚ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
CHAKKAPHATDI PHONG-NAKHON SAWAN			
INTERSECTION NO	32	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Drawing No	6032
		Date	SEPTEMBER 89
		Total	21 / 143

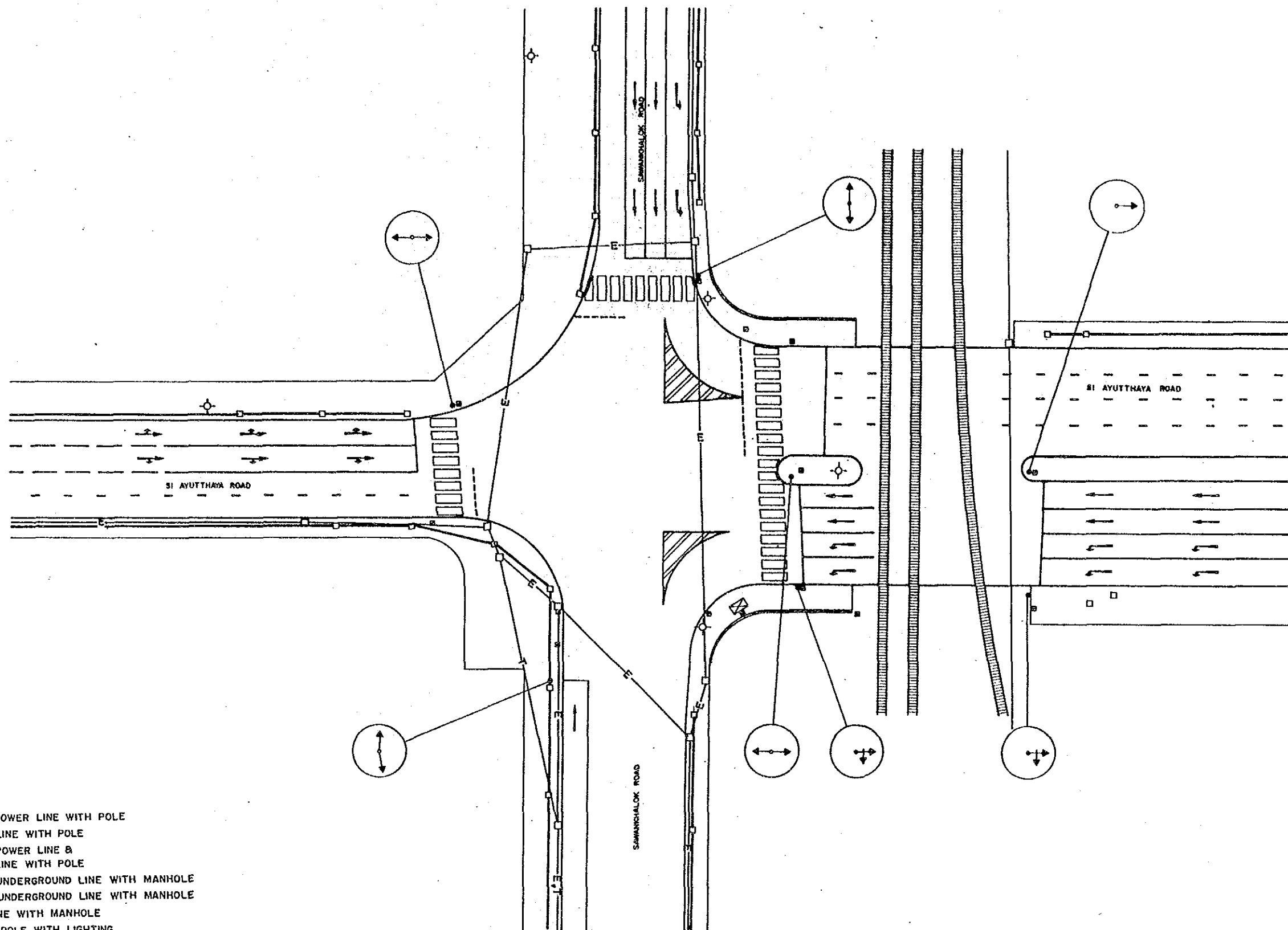


LEGEND

- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊙ LIGHTING POLE
- ⊕ WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊕ TRAFFIC SIGNAL CONTROLLER
- ⊕ HAND HOLE
- ⊕ TELEPHONE CAB
- ⊕ PUBLIC TELEPHONE



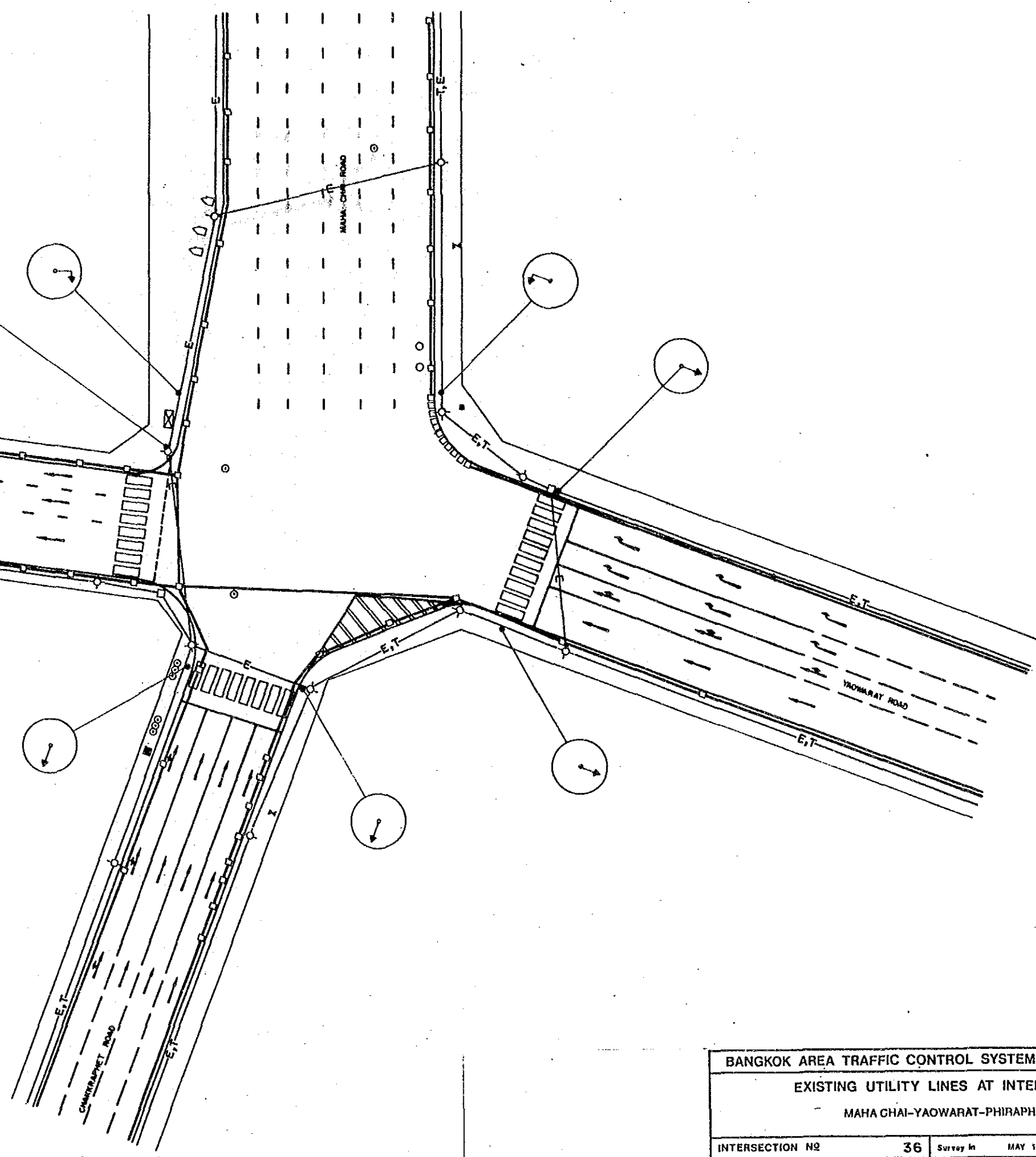
BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
NAKORN SAWAN-PHITSANULOK			
INTERSECTION NO	34	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 90
		Drawing NO	6034
		Total	22 / 143



LEGEND

- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊙ LIGHTING POLE
- ⊕ WATER SUPPLY VALVE
- ⊙ TRAFFIC SIGNAL POLE
- ⊕ TRAFFIC SIGNAL CONTROLLER
- ⊙ HAND HOLE
- ⊕ TELEPHONE CAB
- ⊙ PUBLIC TELEPHONE

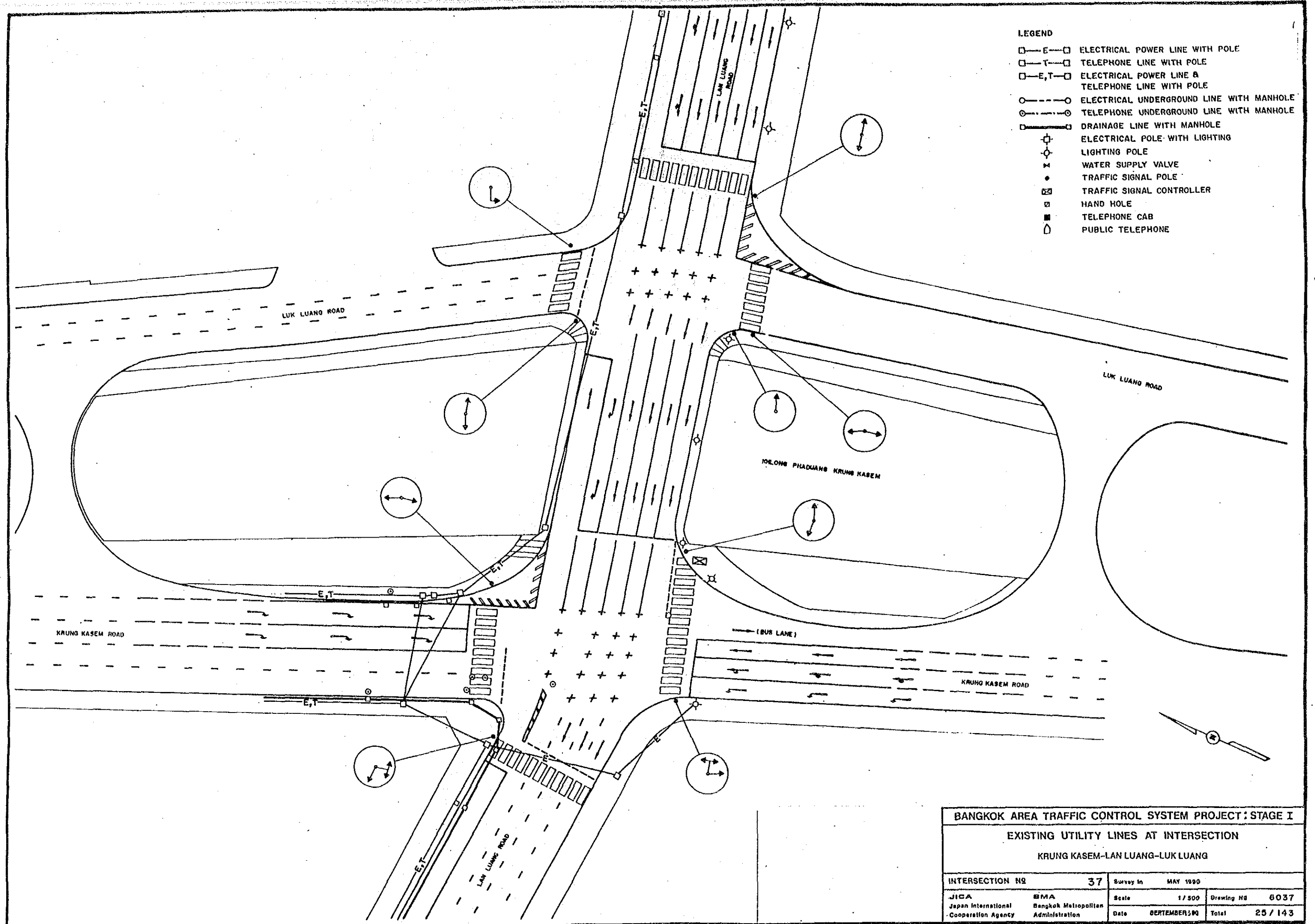
BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
SAWANKHALOK-SI AYUTTHAYA			
INTERSECTION NO	35	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 90
		Drawing No	8035
		Total	23 / 143



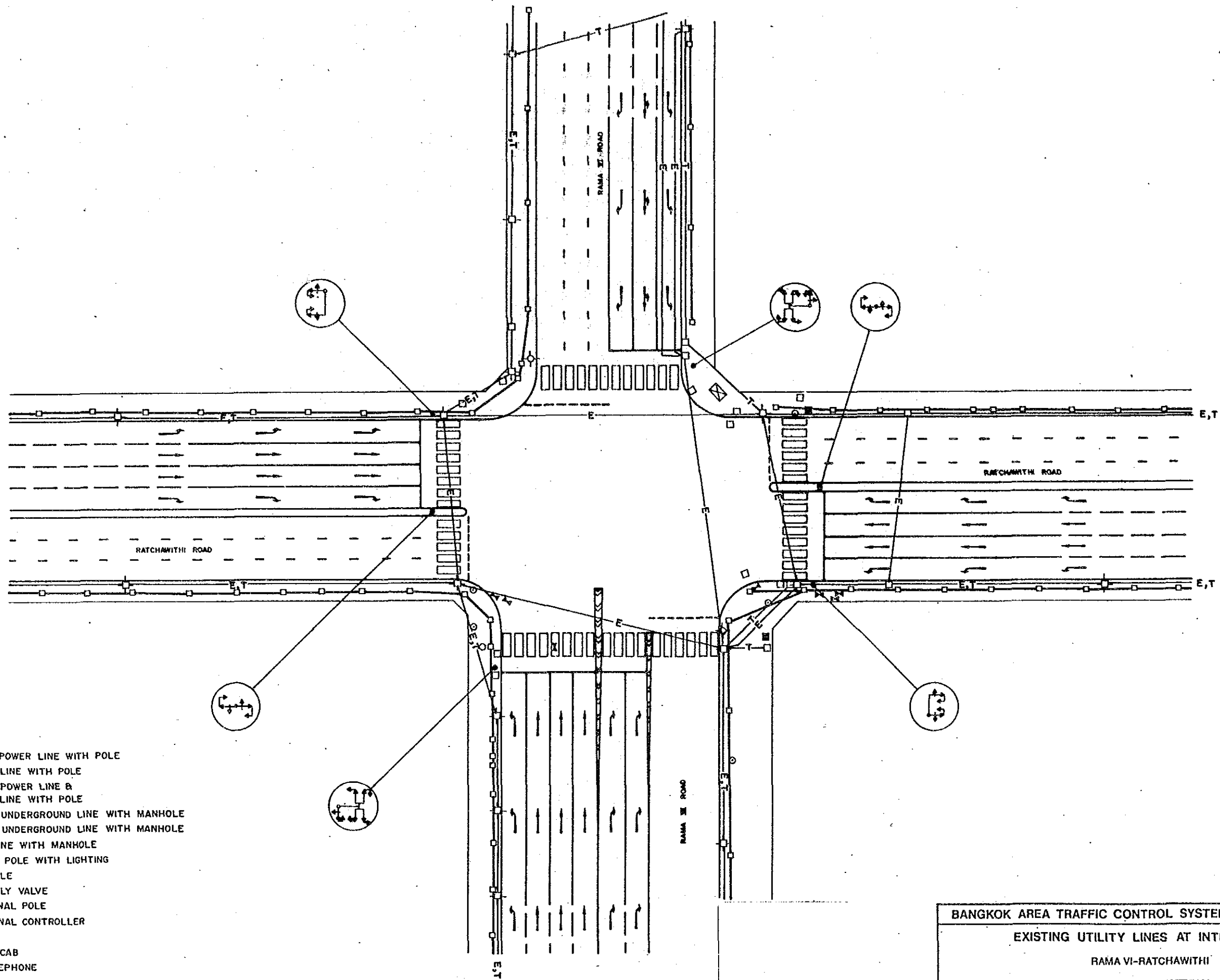
- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊙ LIGHTING POLE
 - ⊕ WATER SUPPLY VALVE
 - TRAFFIC SIGNAL POLE
 - ⊠ TRAFFIC SIGNAL CONTROLLER
 - ⊞ HAND HOLE
 - TELEPHONE CAB
 - Ⓞ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
MAHA CHAI-YAOWARAT-PHIRAPHONG			
INTERSECTION NO	36	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER '90
		Drawing No	6036
		Total	24 / 143

- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - — — — — DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊙ LIGHTING POLE
 - ⋈ WATER SUPPLY VALVE
 - ⊙ TRAFFIC SIGNAL POLE
 - ⊠ TRAFFIC SIGNAL CONTROLLER
 - ⊞ HAND HOLE
 - ⊞ TELEPHONE CAB
 - ⊞ PUBLIC TELEPHONE



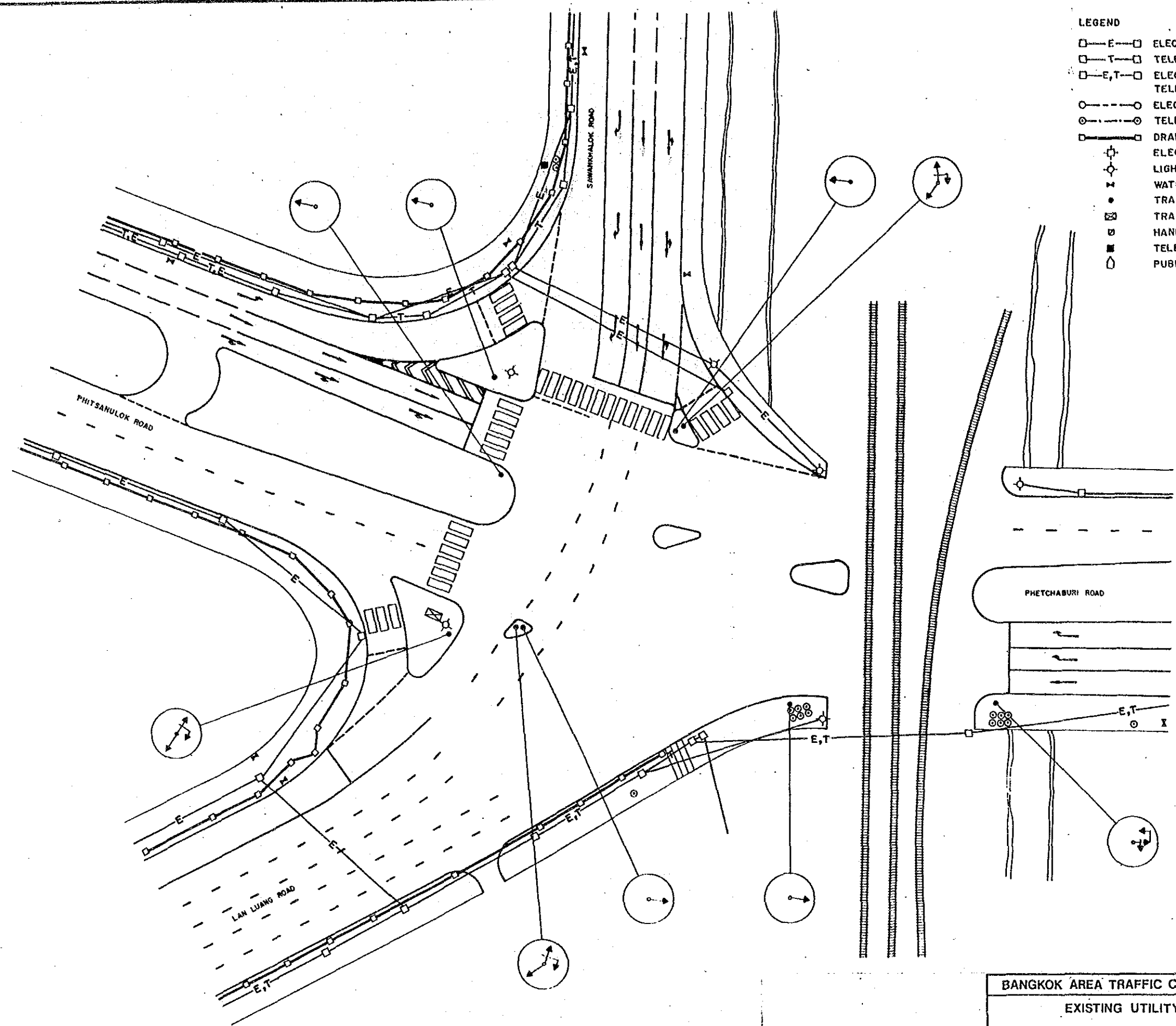
BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
KRUNG KASEM-LAN LUANG-LUK LUANG			
INTERSECTION NO	37	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 1990
		Drawing No	6037
		Total	25 / 143



LEGEND

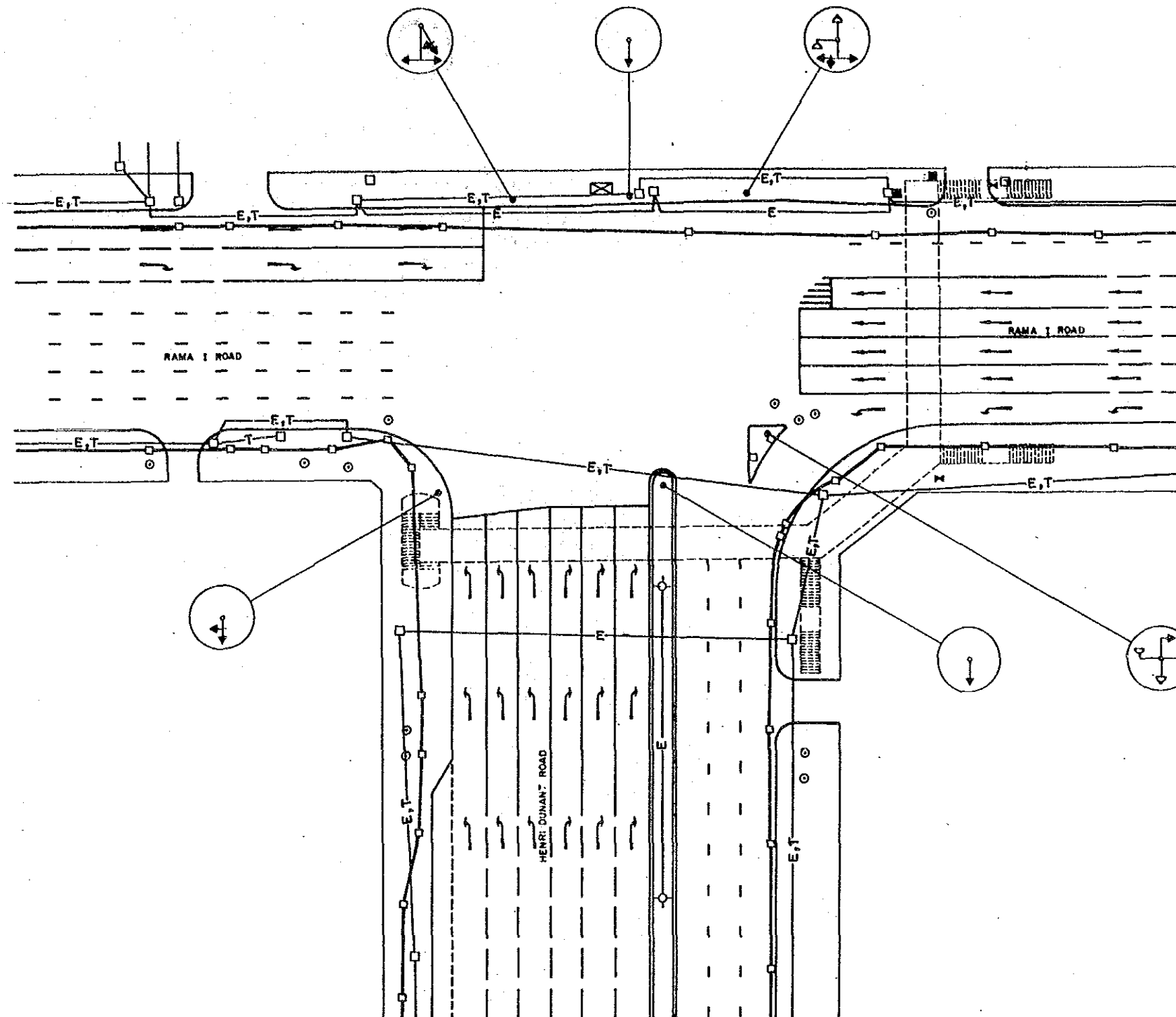
- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ◇ LIGHTING POLE
- ⋈ WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊠ TRAFFIC SIGNAL CONTROLLER
- ⊞ HAND HOLE
- TELEPHONE CAB
- ⌒ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
RAMA VI-RATCHAWITHI			
INTERSECTION NO	39	Survey in	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1/500
		Date	SEPTEMBER/90
		Drawing No	6039
		Total	26 / 143

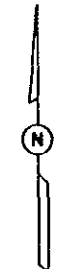


- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - E—○ ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - T—○ TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - D—□ DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊙ LIGHTING POLE
 - ⊕ WATER SUPPLY VALVE
 - ⊙ TRAFFIC SIGNAL POLE
 - ⊕ TRAFFIC SIGNAL CONTROLLER
 - ⊙ HAND HOLE
 - ⊕ TELEPHONE CAB
 - ⊙ PUBLIC TELEPHONE

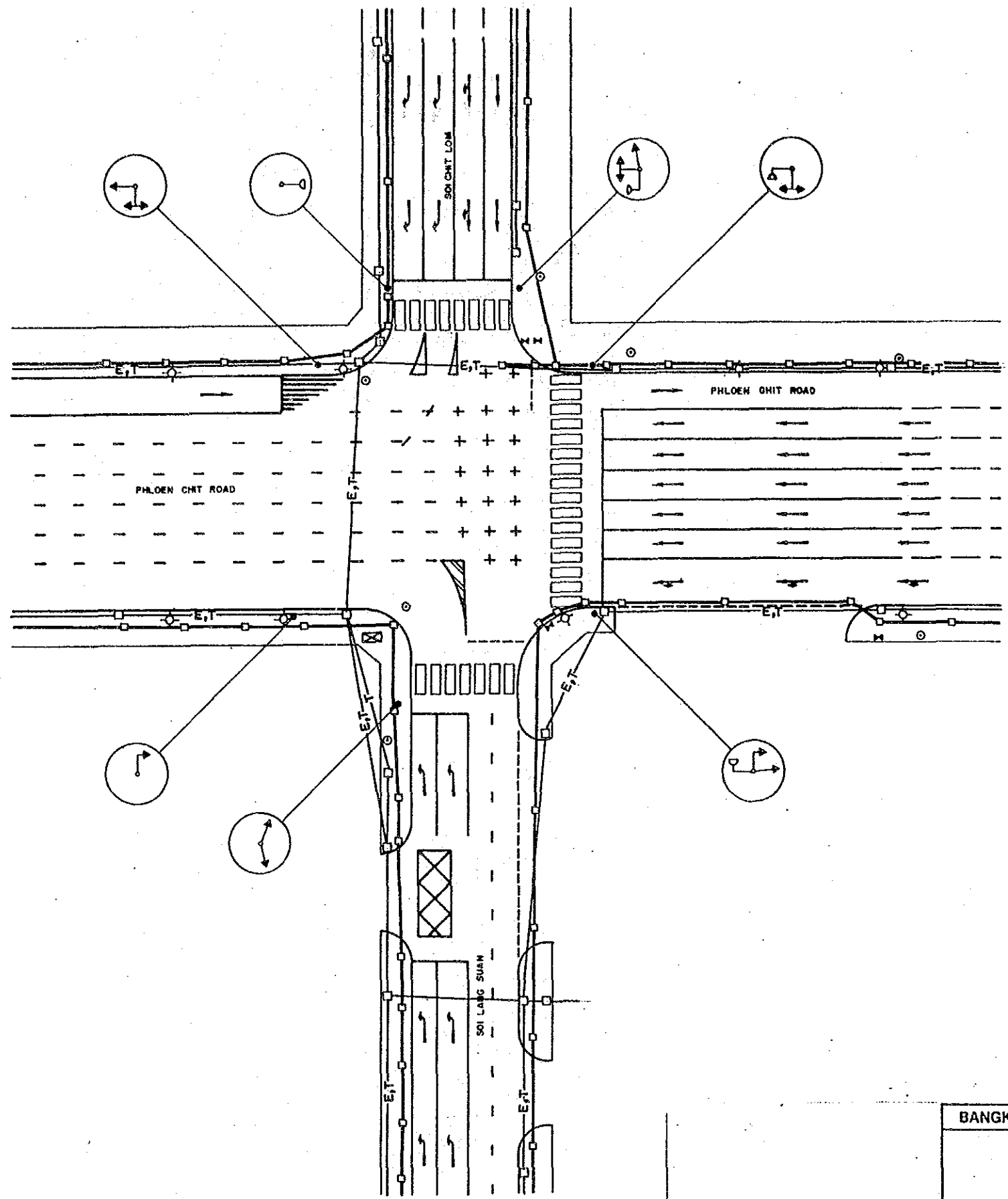
BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT: STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
SAWANKHALOK-PHETCHABURI-LAN LUANG-PHITSANULOK			
INTERSECTION NO	40	Survey in	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1/500
		Drawing No	6040
		Date	SEPTEMBER '90
		Total	27/143



- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊙ LIGHTING POLE
 - ⊕ WATER SUPPLY VALVE
 - ⊙ TRAFFIC SIGNAL POLE
 - ⊕ TRAFFIC SIGNAL CONTROLLER
 - HAND HOLE
 - TELEPHONE CAB
 - ⊙ PUBLIC TELEPHONE



BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
HENRI DUNANT-RAMA I			
INTERSECTION NO	41	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 1990
		Drawing No	6041
		Total	28 / 143



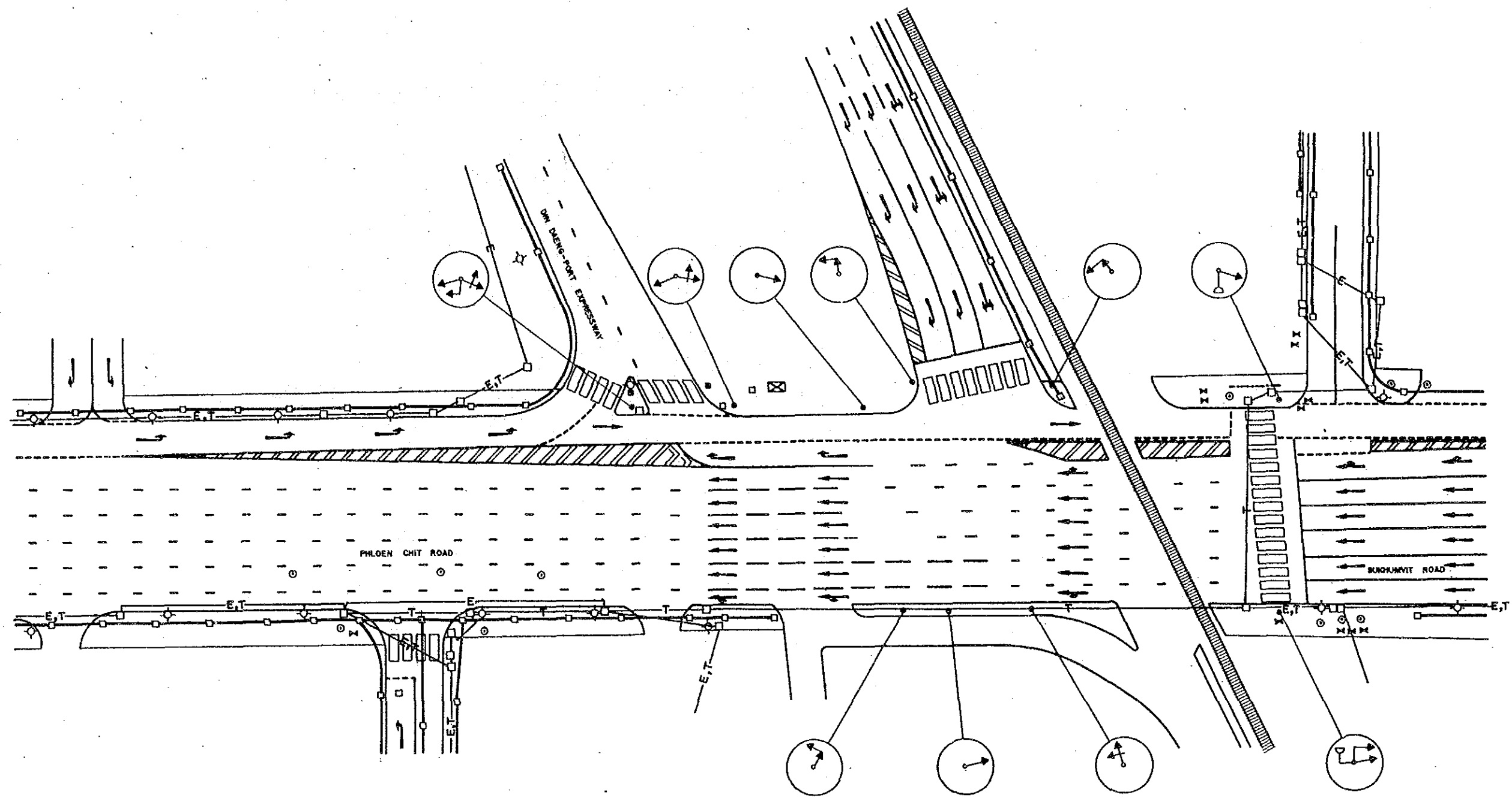
- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ◇ LIGHTING POLE
 - ⋈ WATER SUPPLY VALVE
 - TRAFFIC SIGNAL POLE
 - ⊠ TRAFFIC SIGNAL CONTROLLER
 - ⊞ HAND HOLE
 - TELEPHONE CAB
 - ⌚ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I

EXISTING UTILITY LINES AT INTERSECTION

PHLOEN CHIT-SOI LANG SUAN-SOI CHIT LOM

INTERSECTION NO		42	Survey In		MAY 1990
JICA	BMA	Scale	1 / 500	Drawing No	6042
Japan International Cooperation Agency	Bangkok Metropolitan Administration	Date	SEPTEMBER 1990	Total	29 / 143



LEGEND

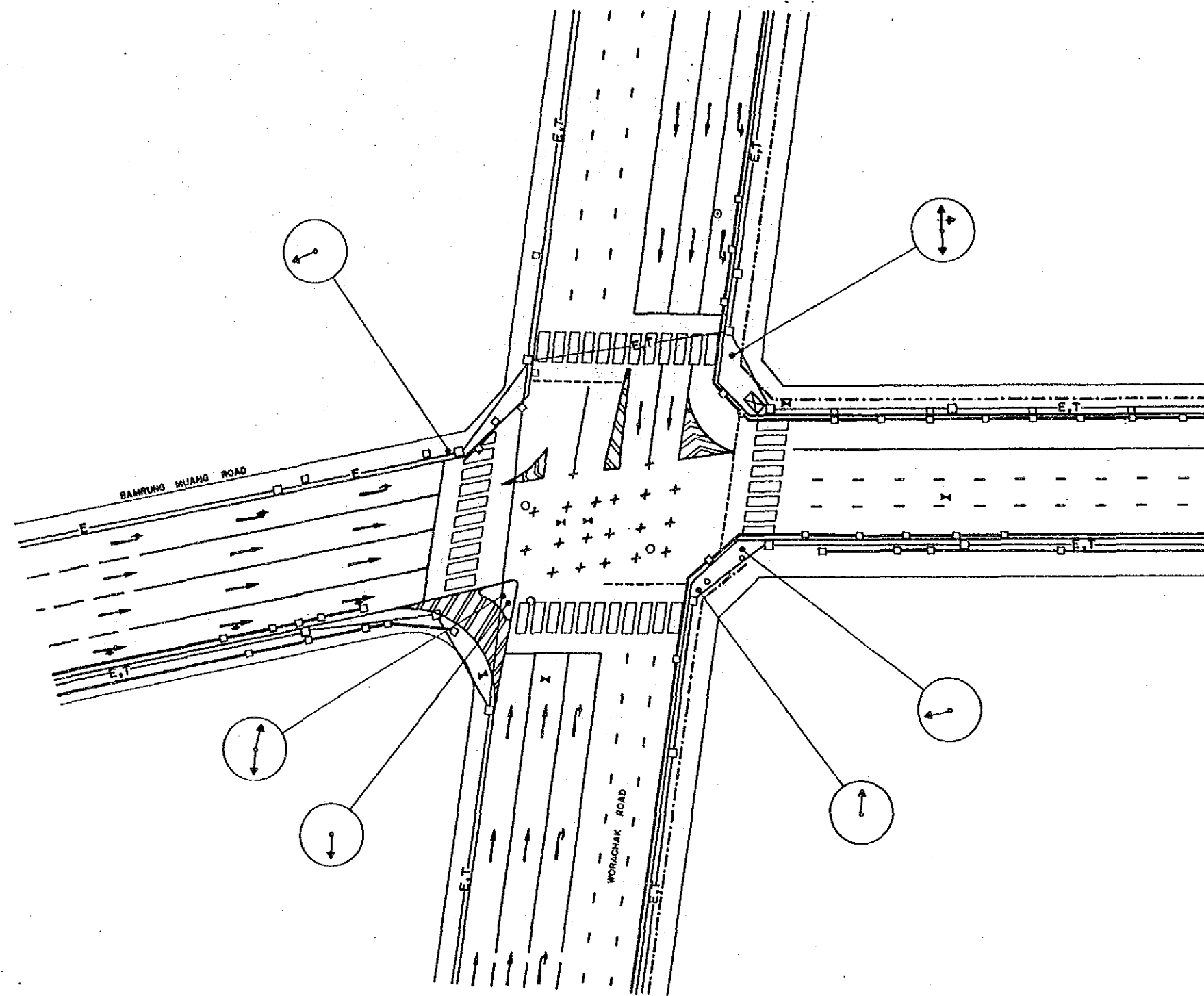
- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊕ LIGHTING POLE
- ⊕ WATER SUPPLY VALVE
- ⊕ TRAFFIC SIGNAL POLE
- ⊕ TRAFFIC SIGNAL CONTROLLER
- ⊕ HAND HOLE
- ⊕ TELEPHONE CAB
- ⊕ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT: STAGE I

EXISTING UTILITY LINES AT INTERSECTION

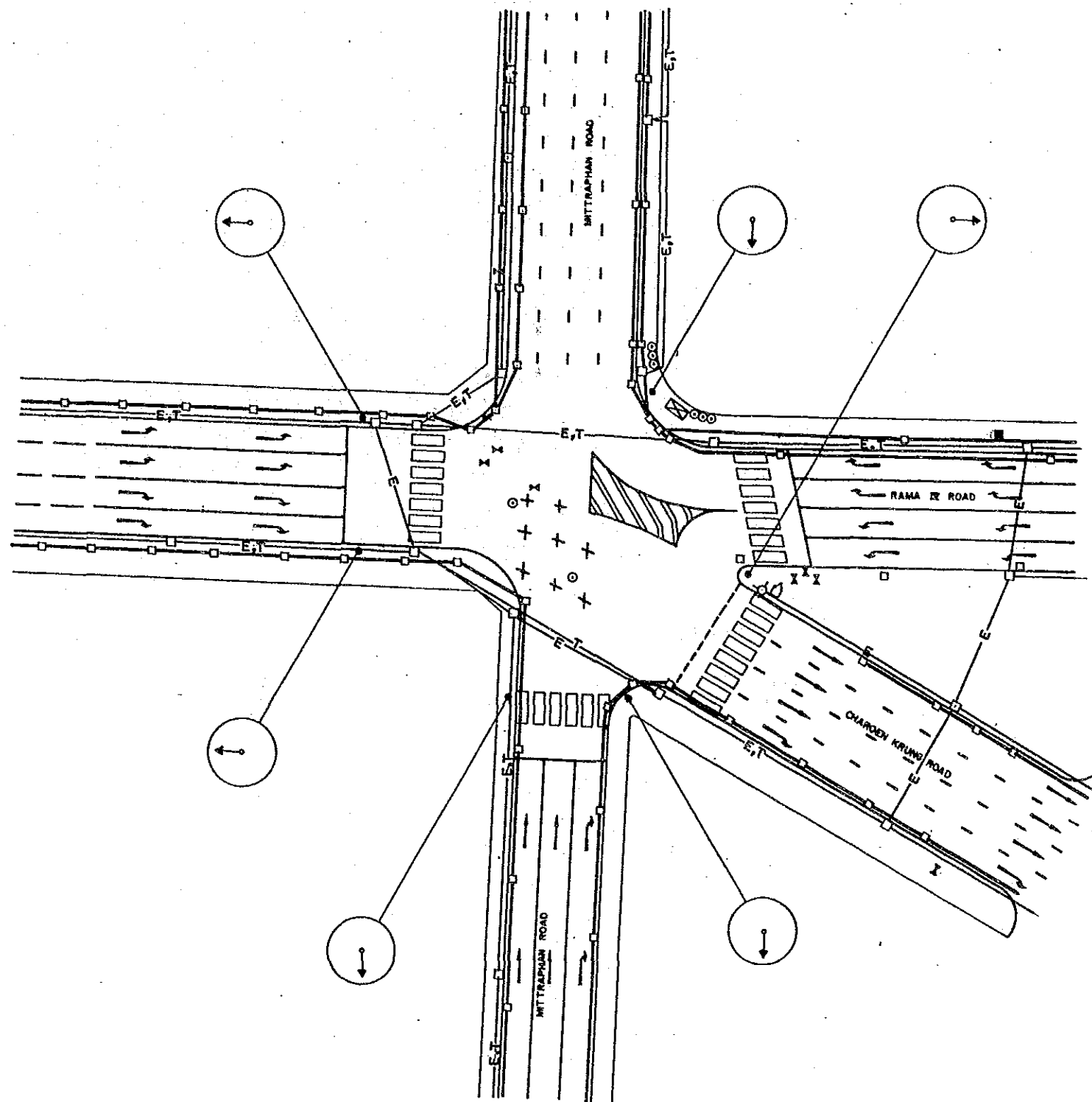
PHLOEN CHIT-DIN DAENG PORT EXPRESSWAY

INTERSECTION NR		43	Survey In		MAY 1990
JICA	BMA	Scale	1/500	Drawing NR	6043
Japan International	Bangkok Metropolitan	Date	SEPTEMBER 1990	Total	30 / 143
Cooperation Agency	Administration				



- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊕ LIGHTING POLE
 - ⊕ WATER SUPPLY VALVE
 - ⊕ TRAFFIC SIGNAL POLE
 - ⊕ TRAFFIC SIGNAL CONTROLLER
 - ⊕ HAND HOLE
 - ⊕ TELEPHONE CAB
 - ⊕ PUBLIC TELEPHONE

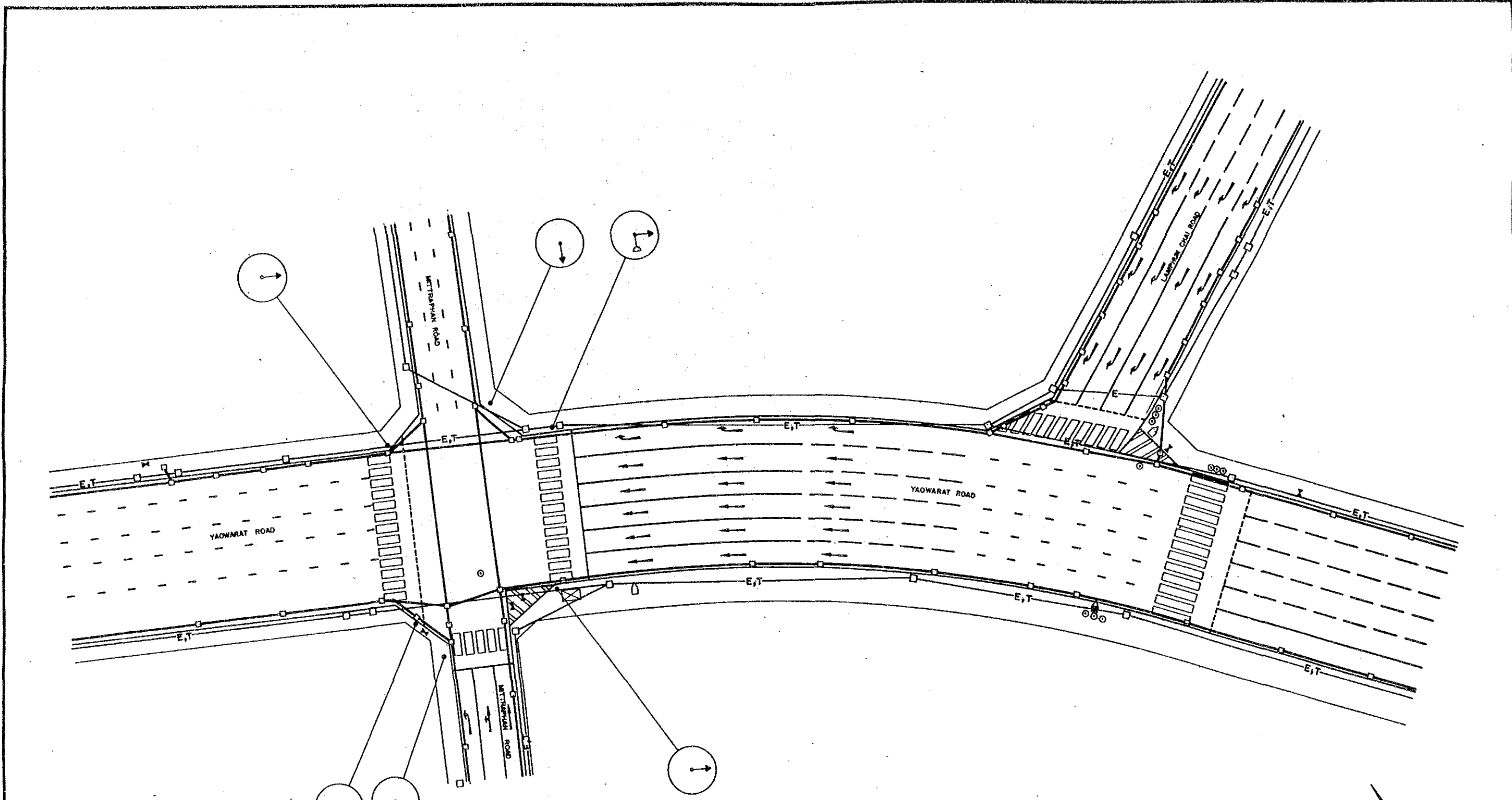
BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
WORACHAK-BAMRUNG MUANG			
INTERSECTION NO	44	Survey in	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Drawing NO	6044
		Date	SEPTEMBER 90
		Total	31 / 143



LEGEND

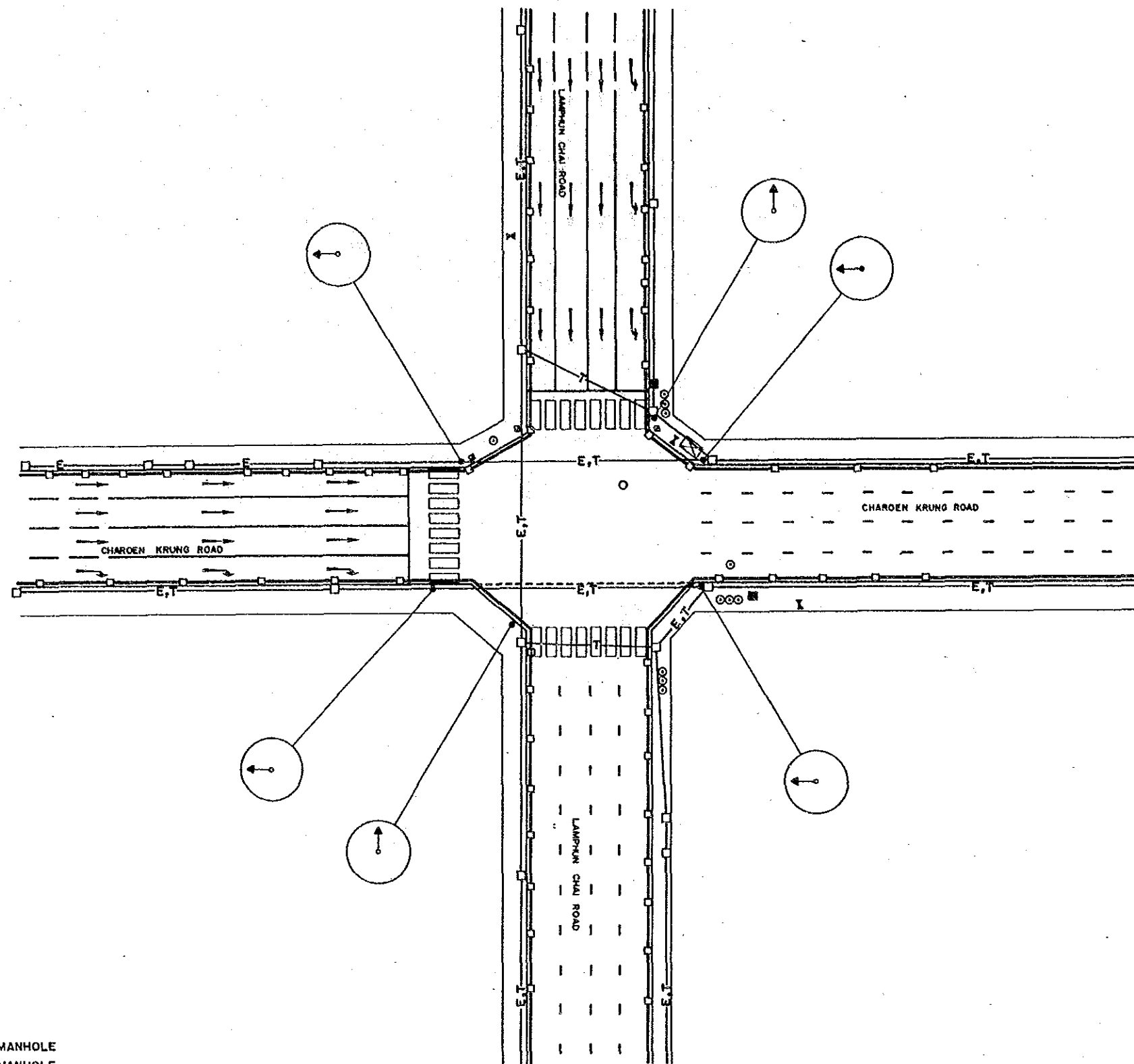
- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊕ LIGHTING POLE
- ⊕ WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊕ TRAFFIC SIGNAL CONTROLLER
- HAND HOLE
- TELEPHONE CAB
- ⊕ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT: STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
CHAROEN KRUNG-RAMA IV-MITTRAPHAN			
INTERSECTION NO	46	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 1990
		Drawing No	6046
		Total	32 / 145



- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊕ LIGHTING POLE
 - ⊕ WATER SUPPLY VALVE
 - TRAFFIC SIGNAL POLE
 - ⊠ TRAFFIC SIGNAL CONTROLLER
 - ⊠ HAND HOLE
 - ⊠ TELEPHONE CAB
 - ⊠ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT: STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
YAOWARAT-MITTRAPHAN			
INTERSECTION NO	47	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 90
		Drawing No	6047
		Total	33 / 143

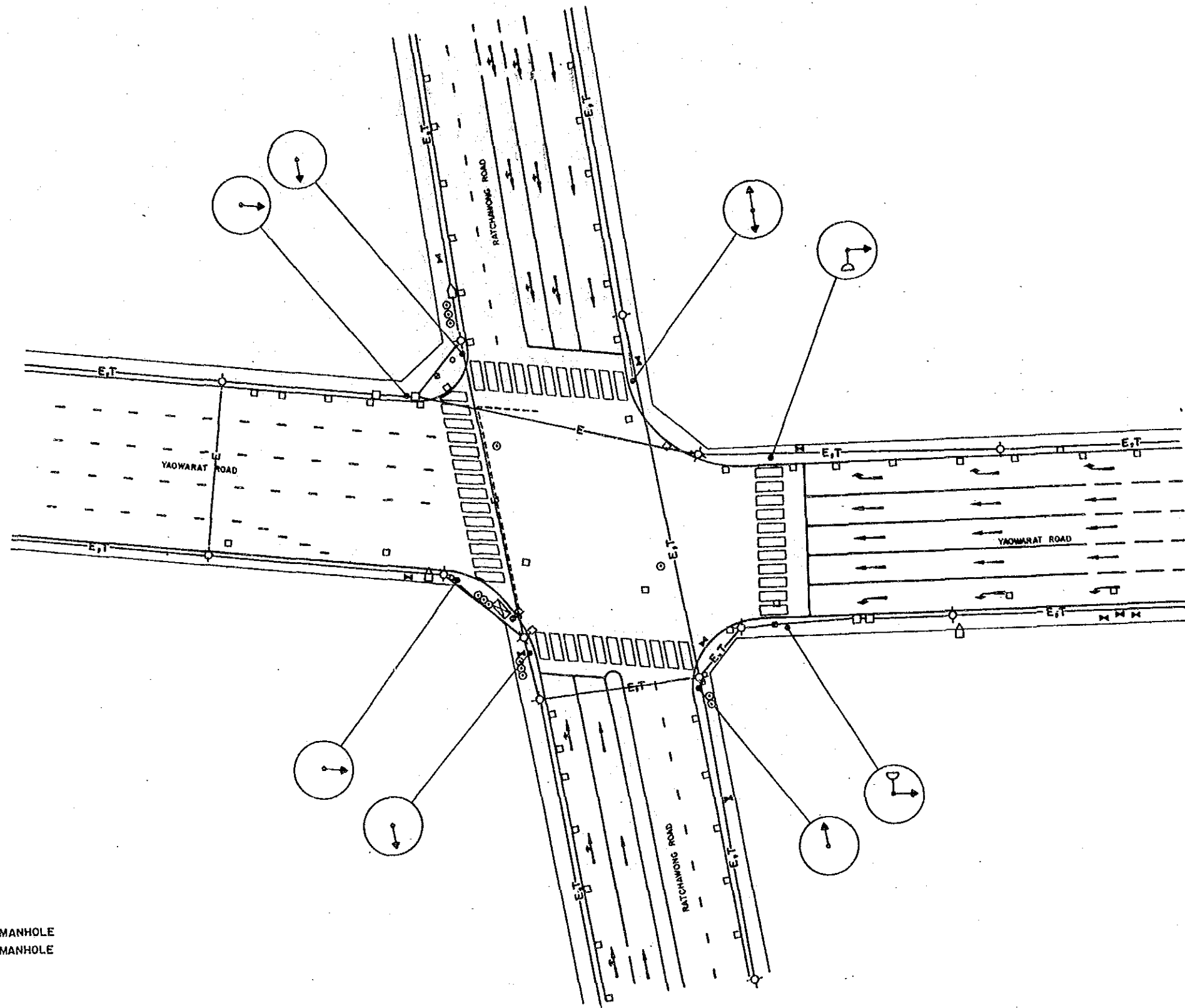


LEGEND

- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊙ LIGHTING POLE
- × WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊠ TRAFFIC SIGNAL CONTROLLER
- ▣ HAND HOLE
- TELEPHONE CAB
- ⊕ PUBLIC TELEPHONE

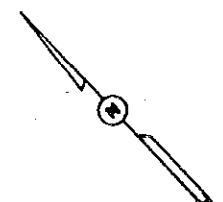


BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
CHAROEN KRUNG-LAMPHUN CHAI			
INTERSECTION NO	48	Survey in	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 1990
		Drawing NO	8048
		Total	34 / 143



LEGEND

- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊕ LIGHTING POLE
- ⊕ WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊠ TRAFFIC SIGNAL CONTROLLER
- ⊠ HAND HOLE
- TELEPHONE CAB
- ⊏ PUBLIC TELEPHONE

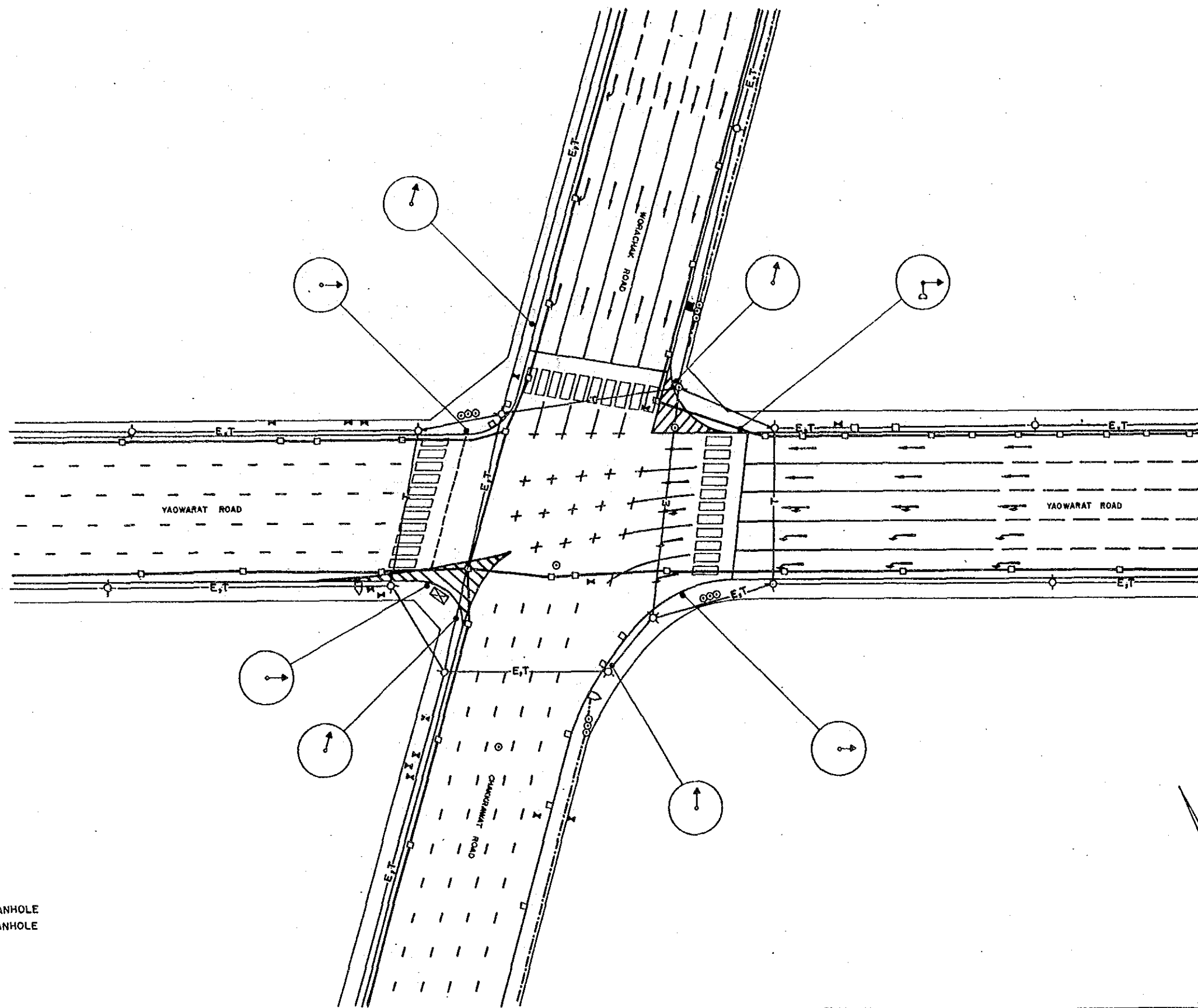


BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT: STAGE I

EXISTING UTILITY LINES AT INTERSECTION

RATCHAWONG-YAOWARAT

INTERSECTION NO		49	Survey In		MAY 1990
JICA	BMA	Scale	1 / 500	Drawing No	6049
Japan International Cooperation Agency	Bangkok Metropolitan Administration	Date	SEPTEMBER '90	Total	33 / 143



LEGEND

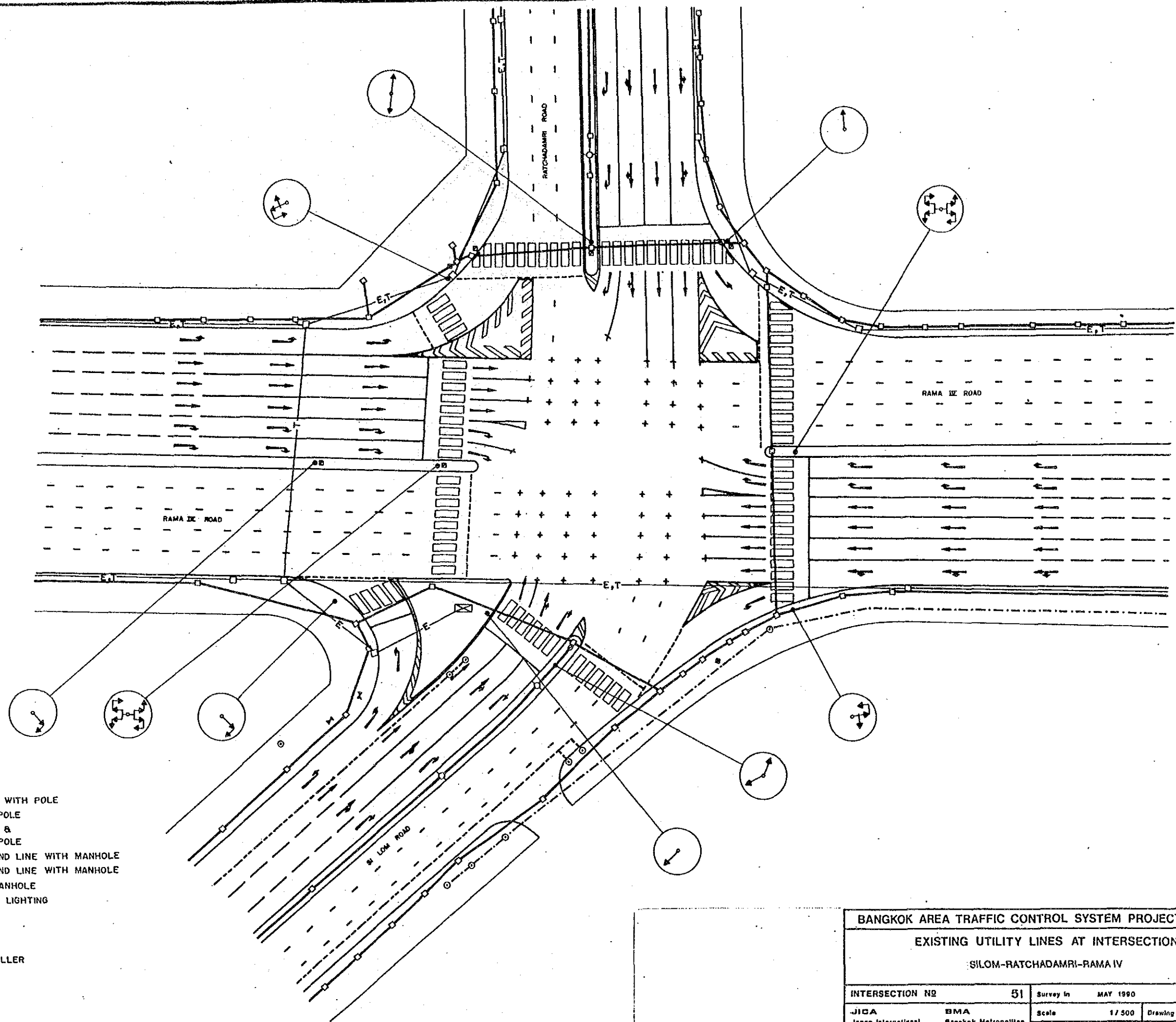
- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊙ LIGHTING POLE
- ⊗ WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊠ TRAFFIC SIGNAL CONTROLLER
- ⊞ HAND HOLE
- ⊡ TELEPHONE CAB
- ⊟ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I

EXISTING UTILITY LINES AT INTERSECTION

CHAKKRAWAT-YAOWARAT-WORACHAK

INTERSECTION NO		50	Survey In		MAY 1980
JICA	BMA	Scale		1 / 500	Drawing No
Japan International	Bangkok Metropolitan				6050
Cooperation Agency	Administration	Date	SEPTEMBER 80	Total	38 / 143



LEGEND

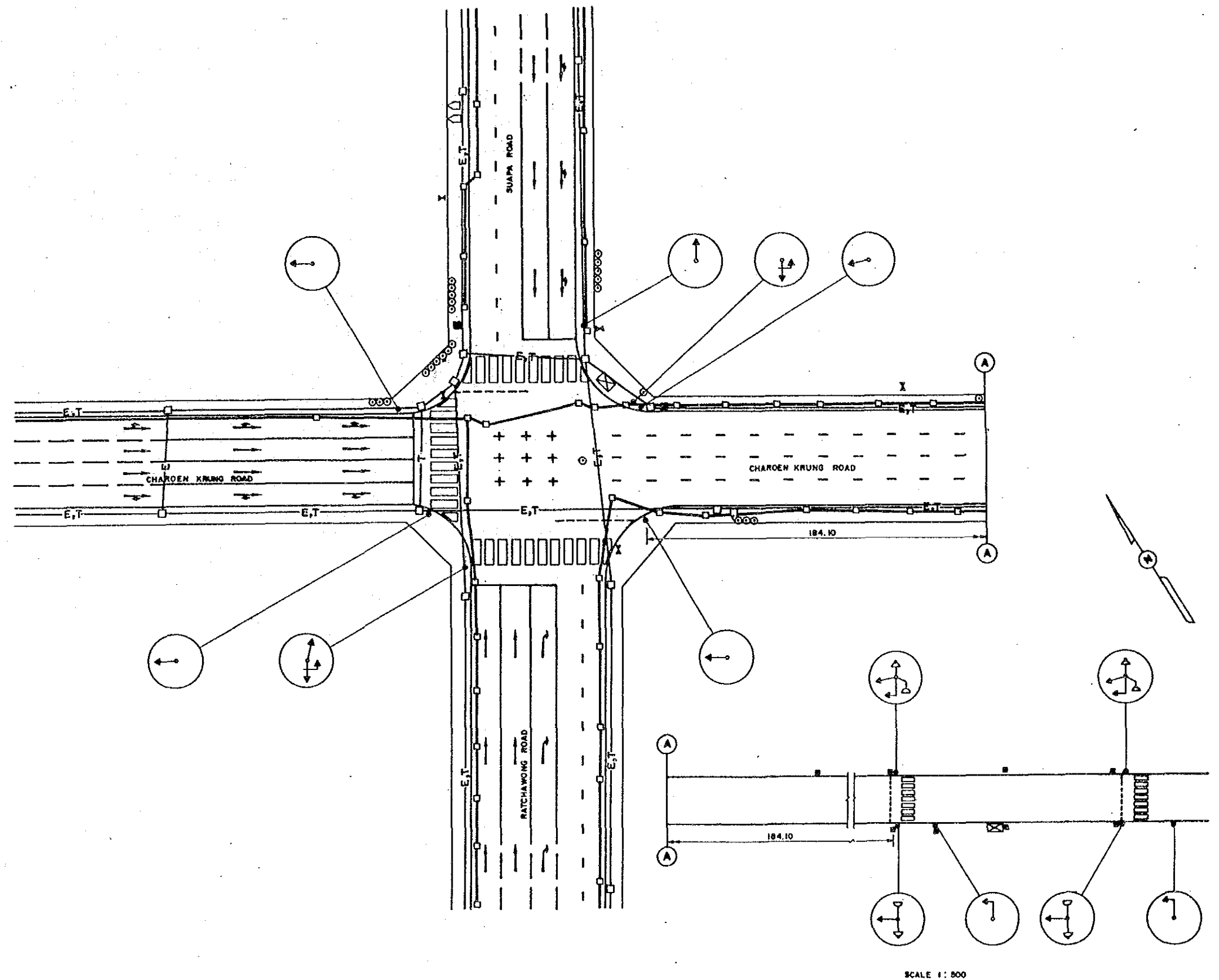
- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊕ LIGHTING POLE
- ⊕ WATER SUPPLY VALVE
- ⊕ TRAFFIC SIGNAL POLE
- ⊕ TRAFFIC SIGNAL CONTROLLER
- ⊕ HAND HOLE
- ⊕ TELEPHONE CAB
- ⊕ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT: STAGE I

EXISTING UTILITY LINES AT INTERSECTION

SILOM-RATCHADAMRI-RAMA IV

INTERSECTION NO		51	Survey in	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500	Drawing No
		Date	SEPTEMBER 1990	Total
				37 / 143

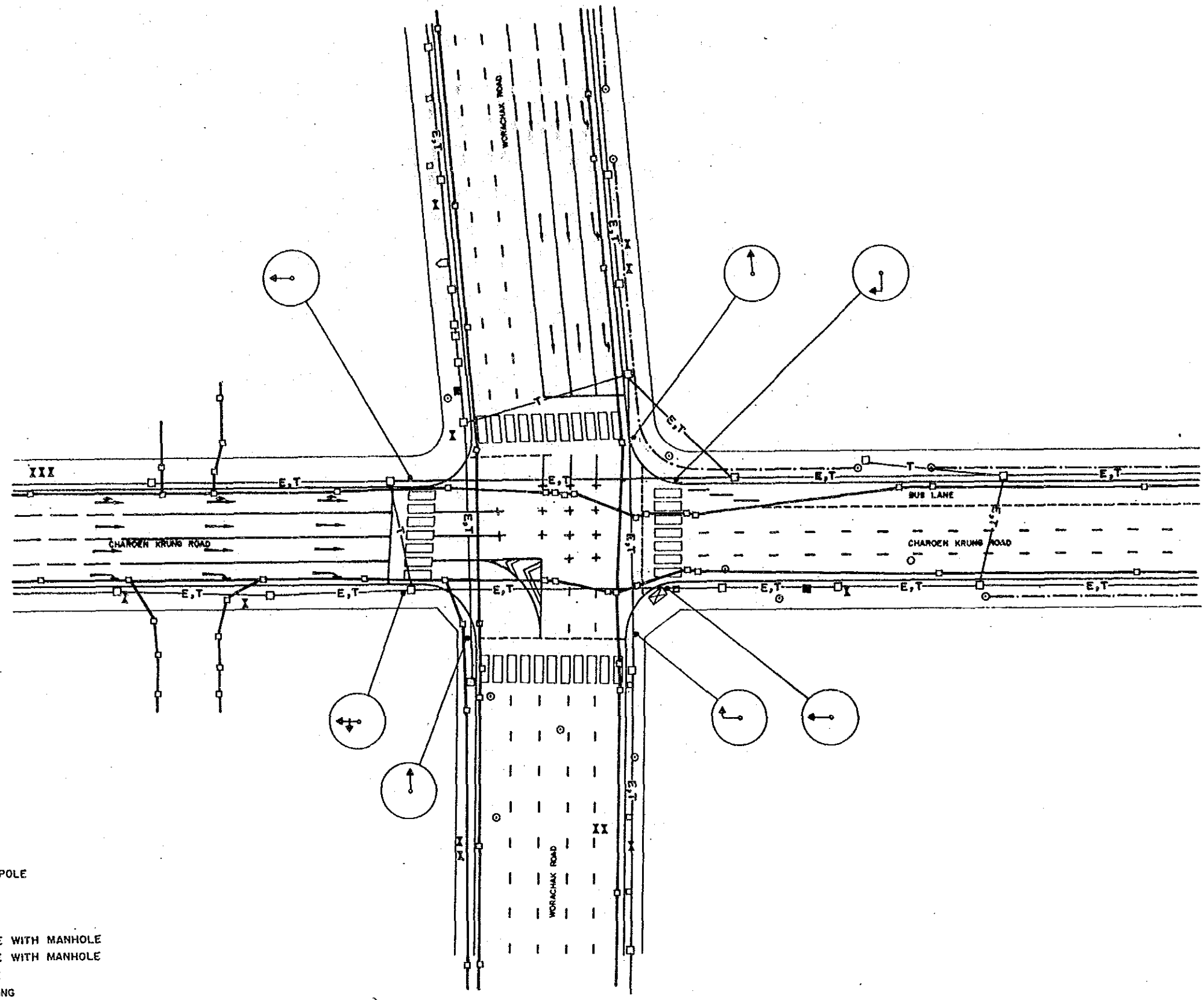


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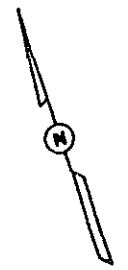
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- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊕ LIGHTING POLE
- × WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊗ TRAFFIC SIGNAL CONTROLLER
- HAND HOLE
- TELEPHONE CAB
- ⏏ PUBLIC TELEPHONE

SCALE 1:500

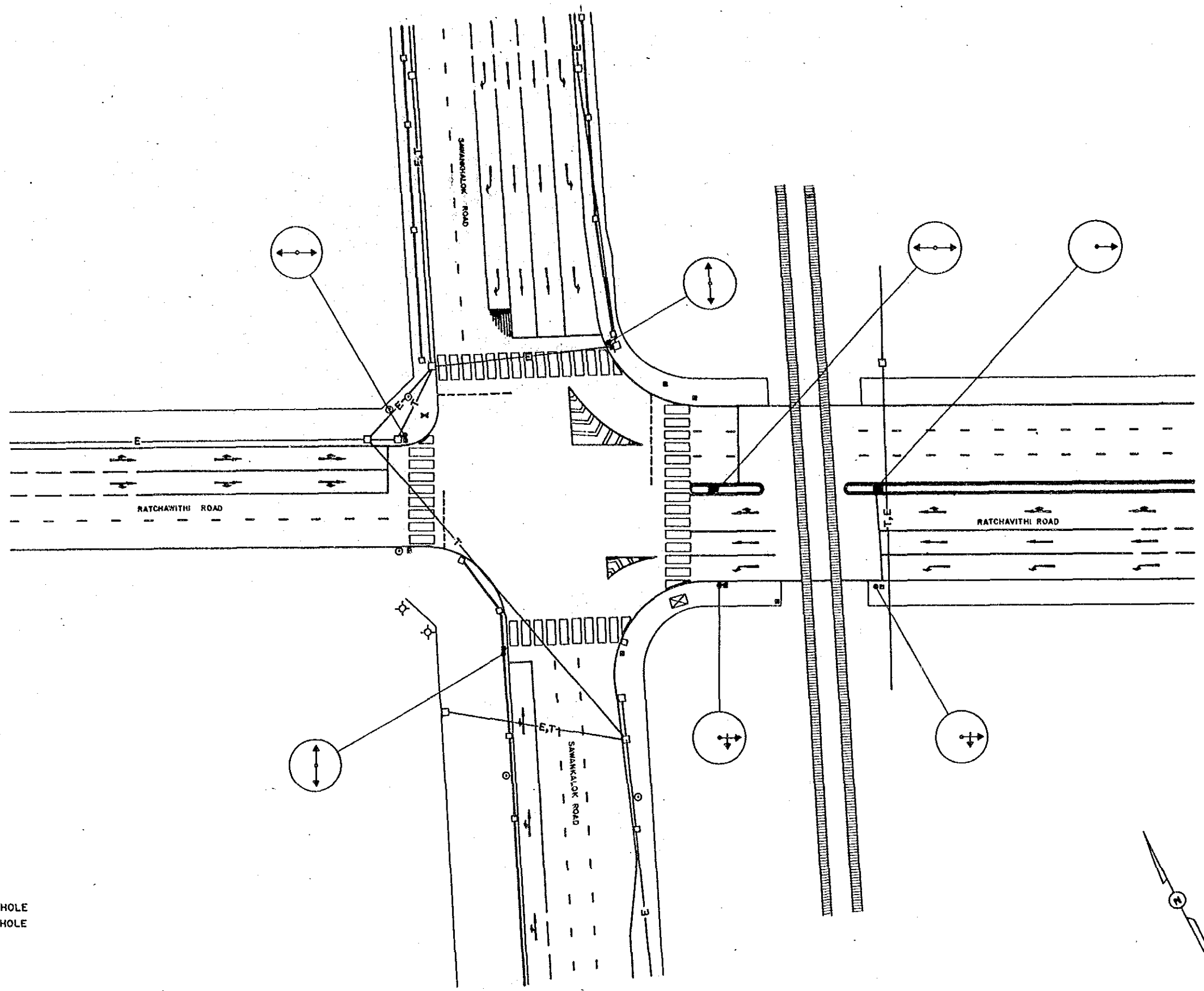
BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
SUAPA-CHAROEN KRUNG-RATCHAWONG			
INTERSECTION NO	52	Survey In	MAY 1990
-JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Drawing No	6052
		Date	SEPTEMBER 90
		Total	38 / 143



- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊕ LIGHTING POLE
 - ⋈ WATER SUPPLY VALVE
 - TRAFFIC SIGNAL POLE
 - ⊠ TRAFFIC SIGNAL CONTROLLER
 - HAND HOLE
 - TELEPHONE CAB
 - △ PUBLIC TELEPHONE



BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
WORACHAK-CHAROEN KRUNG			
INTERSECTION NO	53	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 800
		Date	SEPTEMBER 90
		Drawing No	8053
		Total	39 / 143



LEGEND

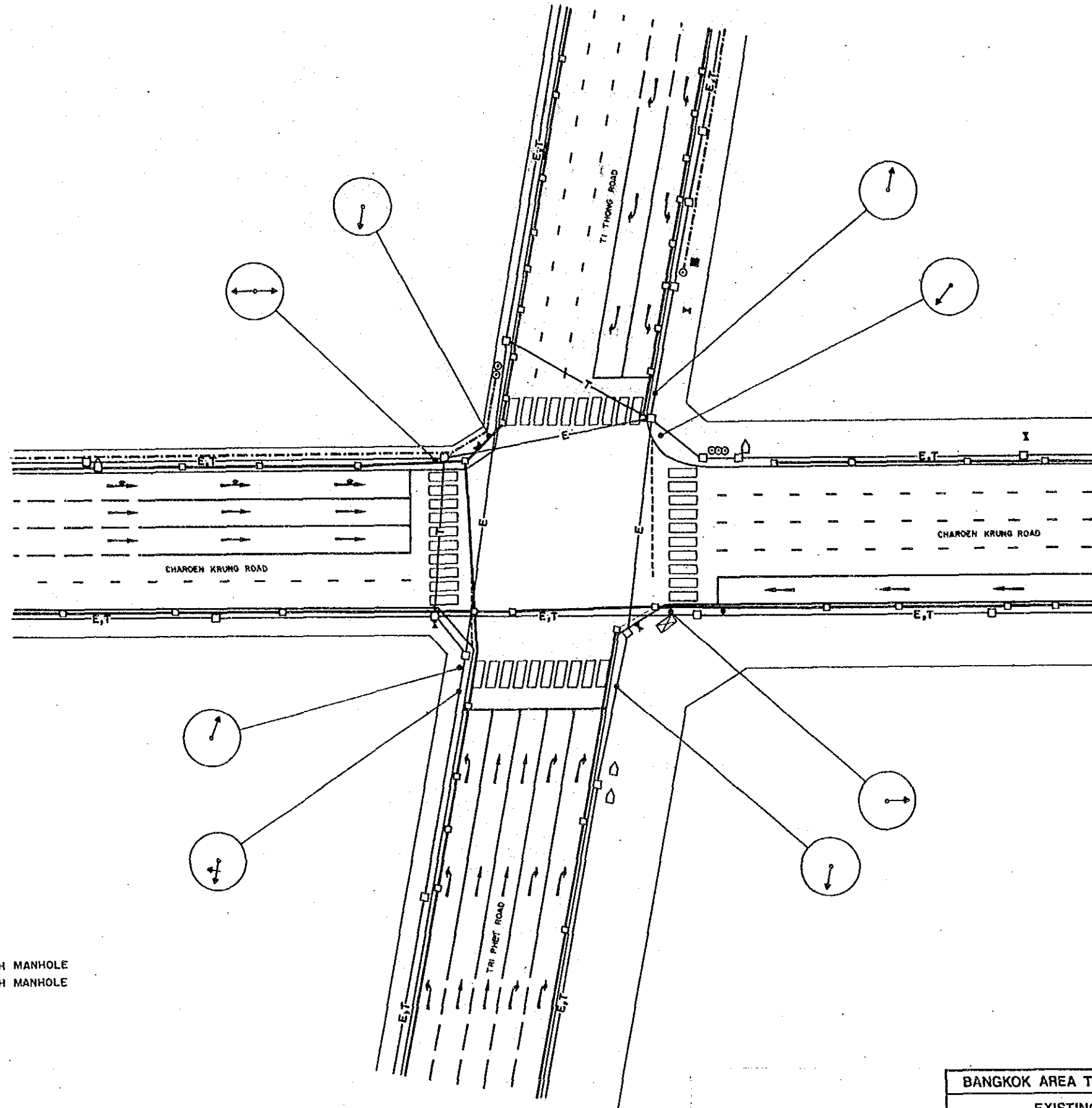
- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- — — DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊕ LIGHTING POLE
- ⊕ WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊠ TRAFFIC SIGNAL CONTROLLER
- ⊠ HAND HOLE
- ⊠ TELEPHONE CAB
- ⊠ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I

EXISTING UTILITY LINES AT INTERSECTION

SAWANKHALOK-RATCHAVITHI

INTERSECTION NO		54	Survey In		MAY 1990
JICA	BMA	Scale	1 / 500	Drawing NR	6054
Japan International	Bangkok Metropolitan	Date	SEPTEMBER 80	Total	40 / 143
Cooperation Agency	Administration				

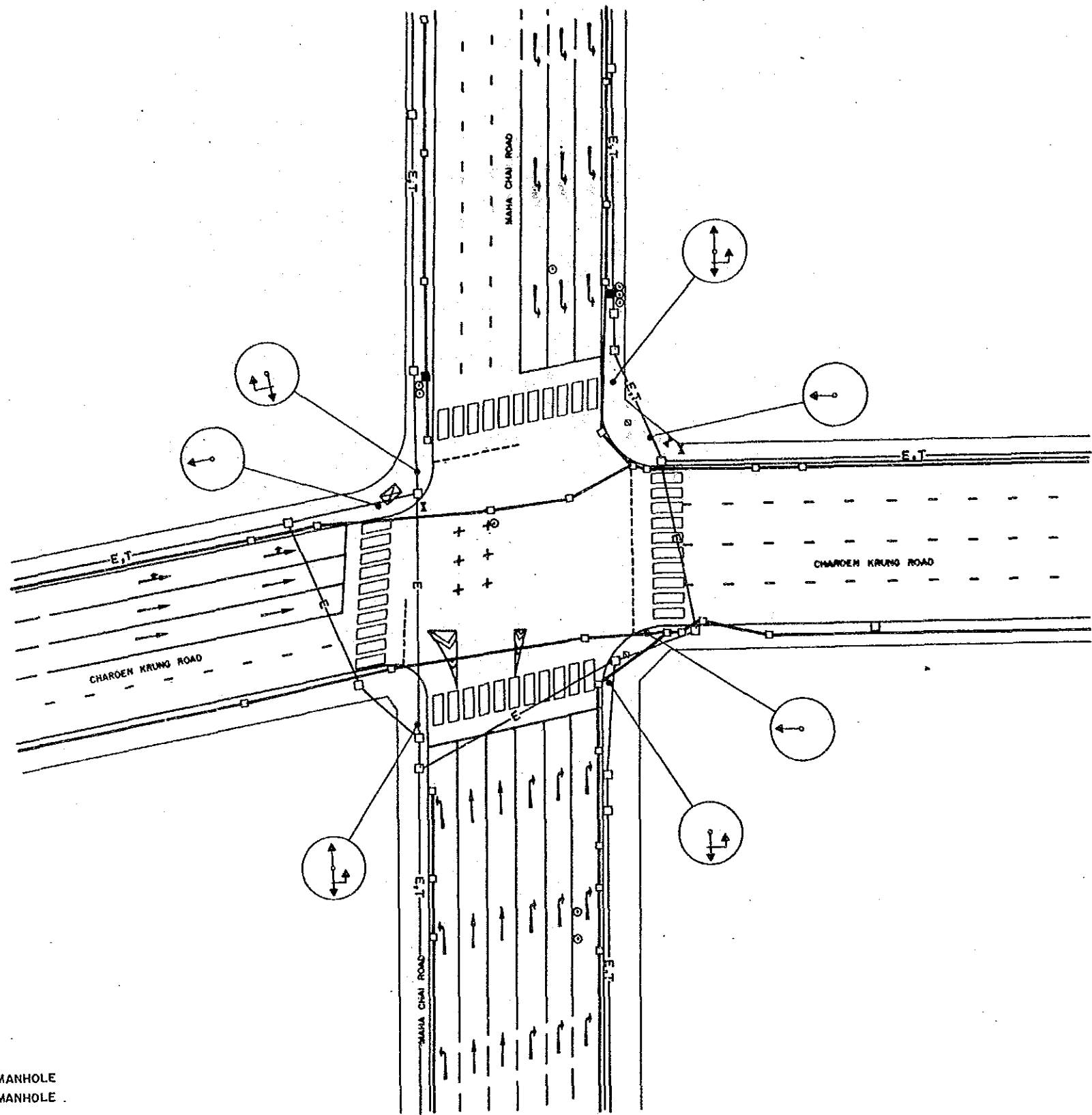


LEGEND

- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊕ LIGHTING POLE
- ⋈ WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊠ TRAFFIC SIGNAL CONTROLLER
- ⊞ HAND HOLE
- TELEPHONE CAB
- Ⓜ PUBLIC TELEPHONE



BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT: STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
TRI PHET-CHAROEN KRUNG-TI THONG			
INTERSECTION NO	55	Survey in	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 80
		Drawing No	6053
		Total	41 / 143

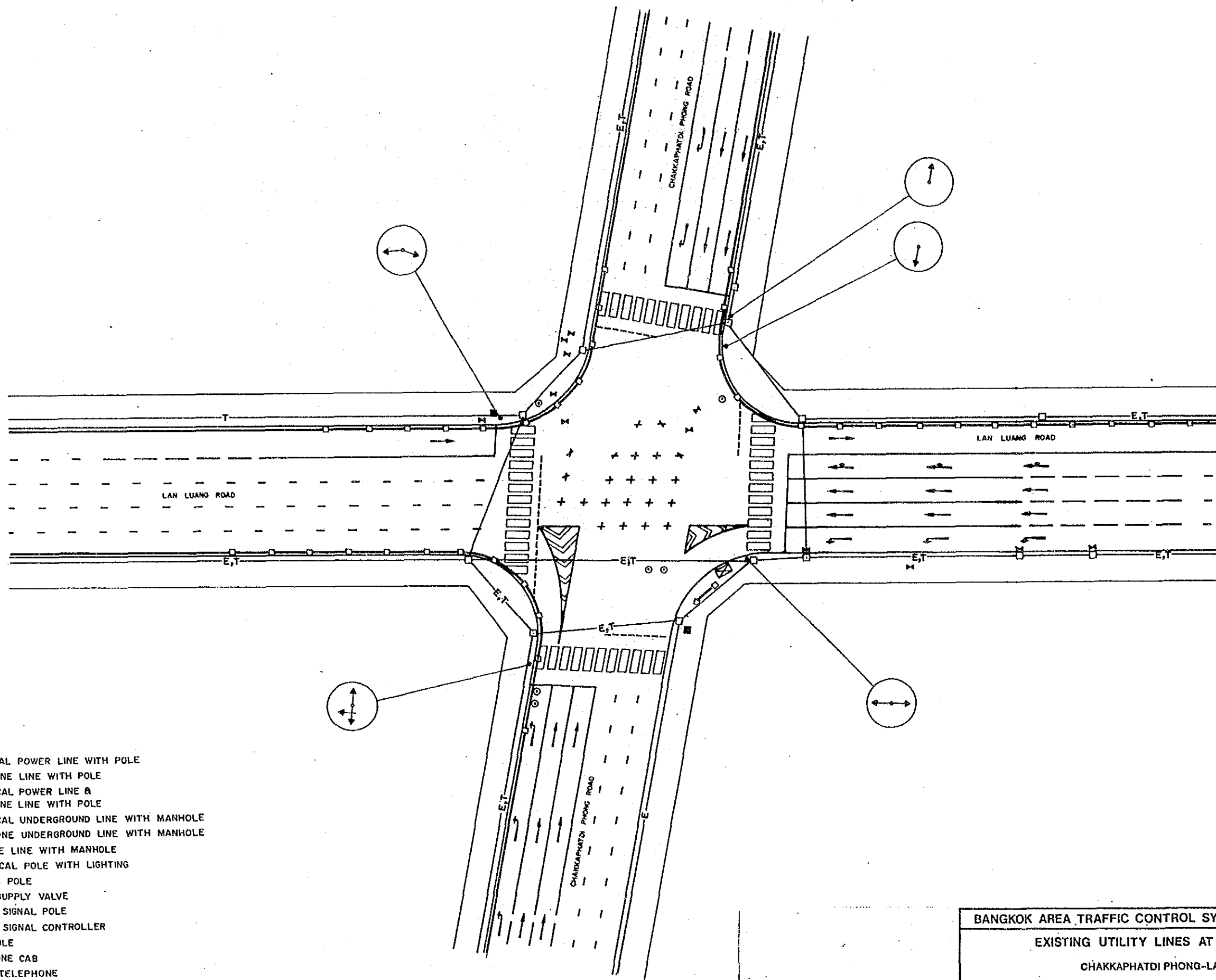


LEGEND

- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊕ LIGHTING POLE
- ⊕ WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊠ TRAFFIC SIGNAL CONTROLLER
- ⊠ HAND HOLE
- TELEPHONE CAB
- △ PUBLIC TELEPHONE



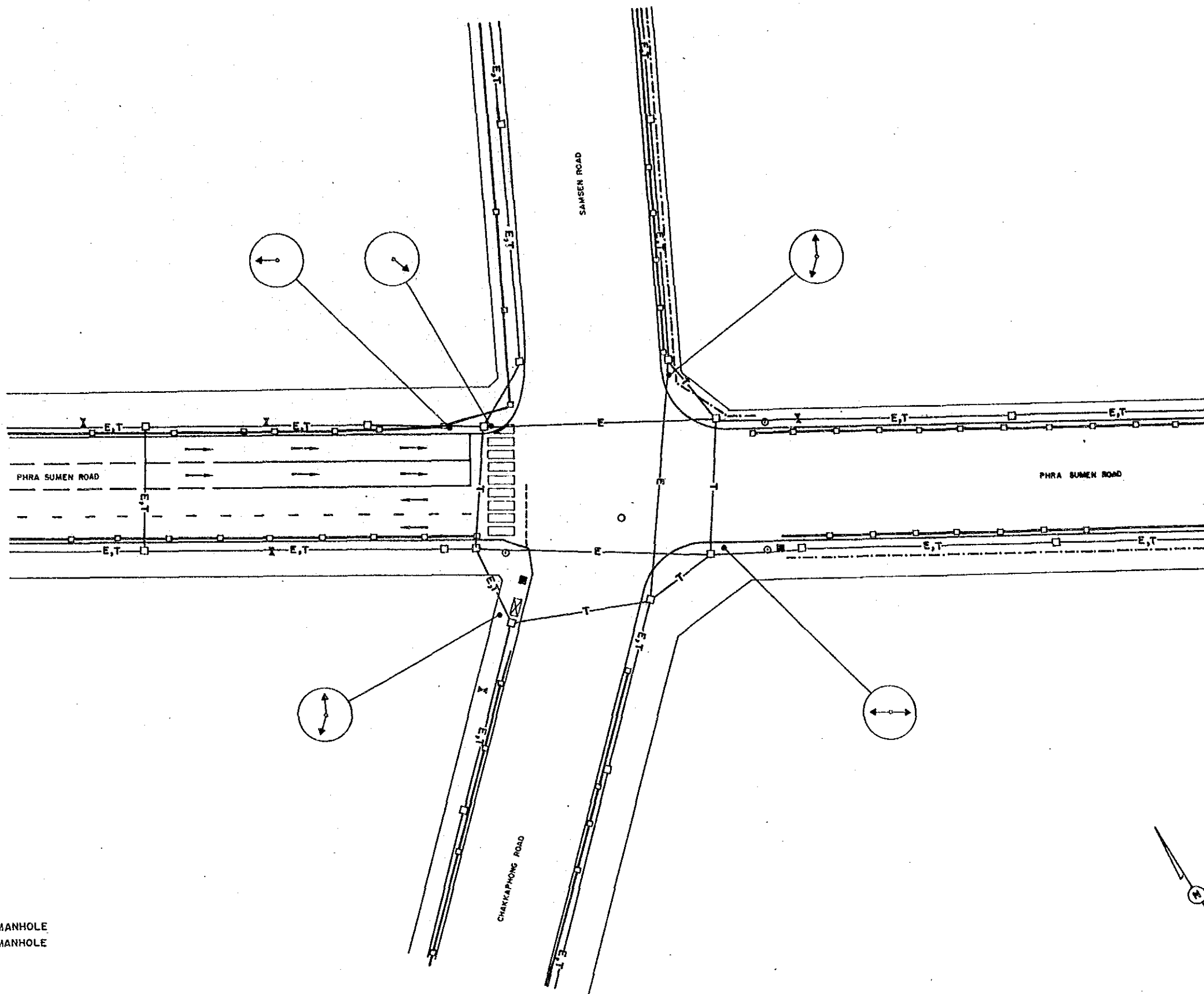
BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT: STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
MAHA CHAI-CHAROEN KRUNG			
INTERSECTION NO	56	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 1990
		Drawing No	6036
		Total	42 / 143



- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊕ LIGHTING POLE
 - ⋈ WATER SUPPLY VALVE
 - TRAFFIC SIGNAL POLE
 - ⊠ TRAFFIC SIGNAL CONTROLLER
 - ⊞ HAND HOLE
 - TELEPHONE CAB
 - ⌒ PUBLIC TELEPHONE

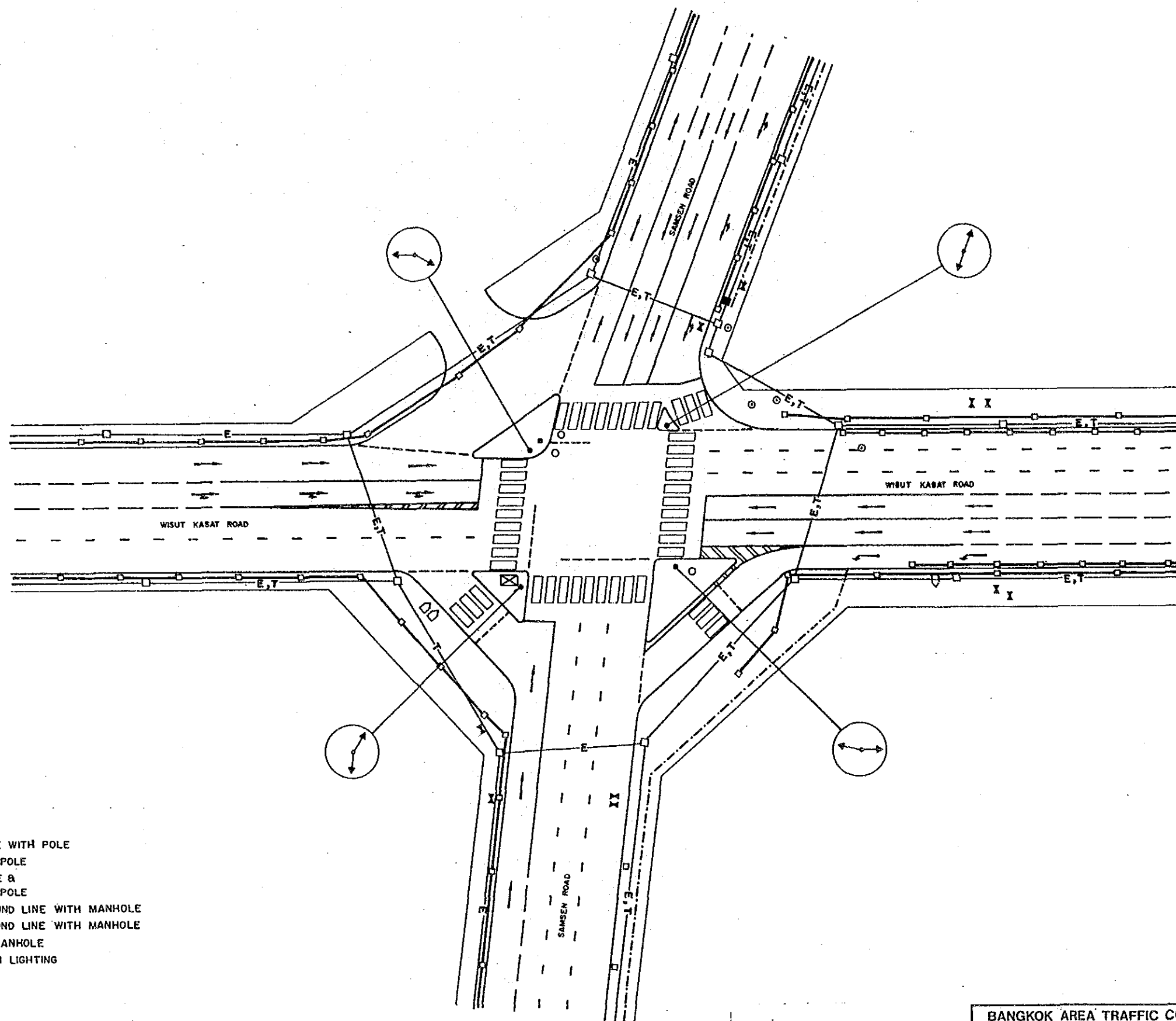


BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
CHAKKAPHATDI PHONG-LAN LUANG			
INTERSECTION NO	57	Survey In	MAY 1990
JICA	BMA	Scale	1 / 500
Japan International	Bangkok Metropolitan	Date	SEPTEMBER 1990
Cooperation Agency	Administration	Total	43 / 143



- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE B TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊕ LIGHTING POLE
 - ⋈ WATER SUPPLY VALVE
 - TRAFFIC SIGNAL POLE
 - ⊠ TRAFFIC SIGNAL CONTROLLER
 - ⊞ HAND HOLE
 - TELEPHONE CAB
 - △ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
SAMSEN-CHAKKRAPHONG-PHRA SUMEN			
INTERSECTION NO	58	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Drawing No	6058
		Date	SEPTEMBER 80
		Total	44 / 145



- LEGEND
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊙ LIGHTING POLE
 - ⊕ WATER SUPPLY VALVE
 - TRAFFIC SIGNAL POLE
 - ⊠ TRAFFIC SIGNAL CONTROLLER
 - ⊞ HAND HOLE
 - TELEPHONE CAB
 - ⏏ PUBLIC TELEPHONE

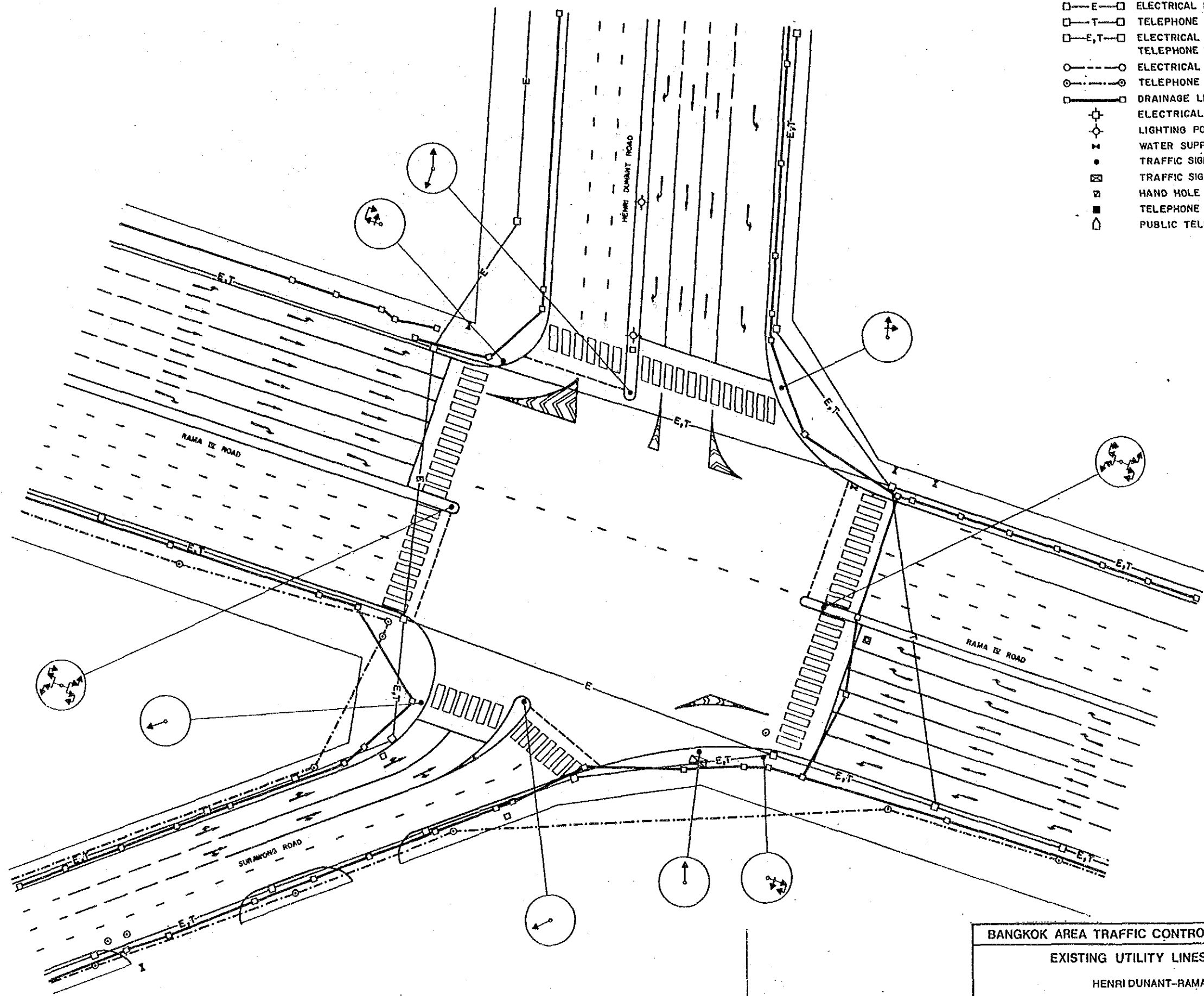


BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I

EXISTING UTILITY LINES AT INTERSECTION

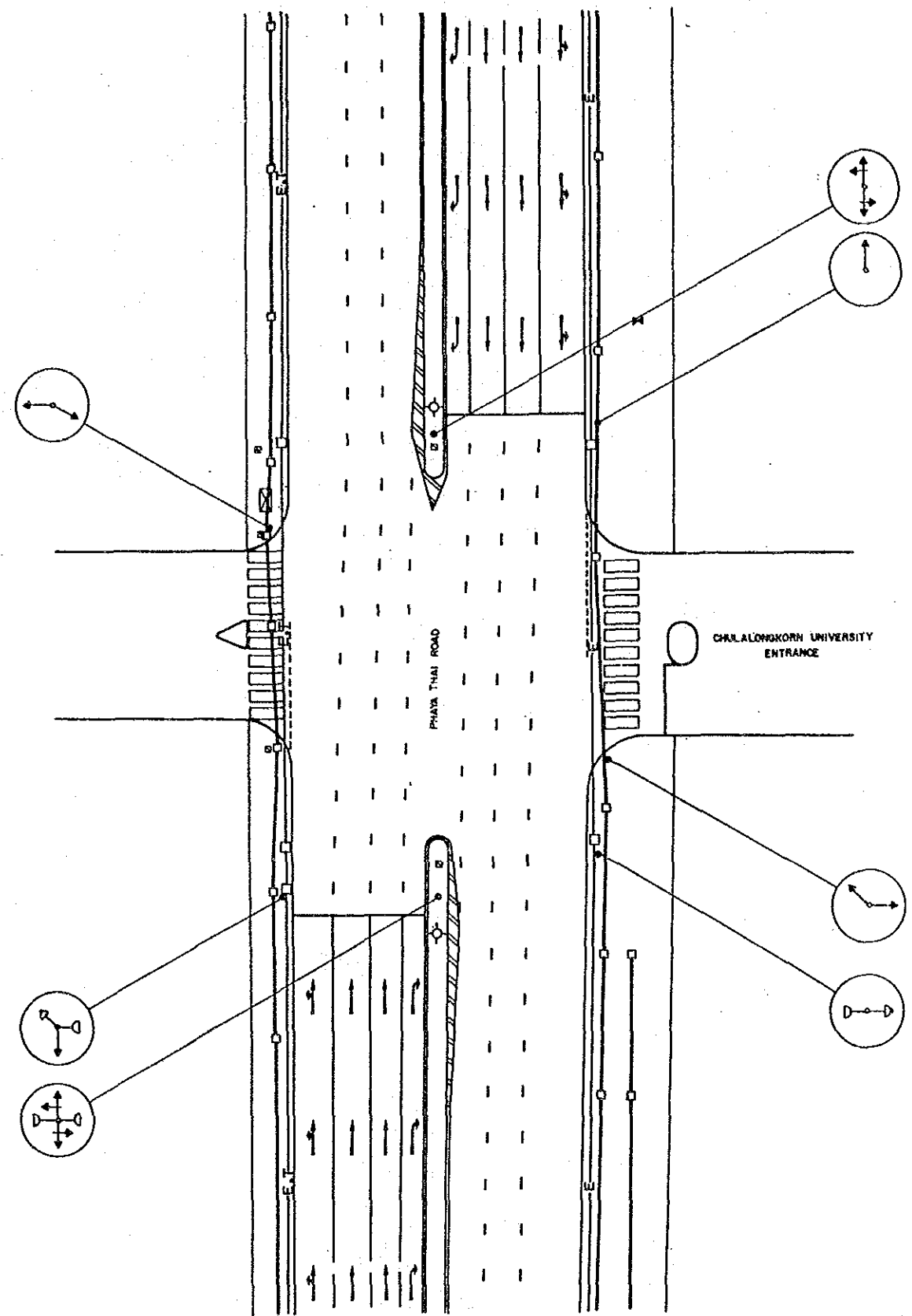
SAMSEN-WISUT KASAT

INTERSECTION NO	59	Survey In	MAY 1980
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Drawing No	6059
		Date	SEPTEMBER 80
		Total	45 / 143



- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - DRAINAGE LINE WITH MANHOLE
 - ⊕ LIGHTING POLE WITH LIGHTING
 - ⊕ WATER SUPPLY VALVE
 - TRAFFIC SIGNAL POLE
 - ⊠ TRAFFIC SIGNAL CONTROLLER
 - ⊞ HAND HOLE
 - TELEPHONE CAB
 - ⌚ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
HENRI DUNANT-RAMA IV-SURAWONG			
INTERSECTION NO	63	Survey in	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Data	SEPTEMBER:90
		Drawing No	6063
		Total	46 / 143



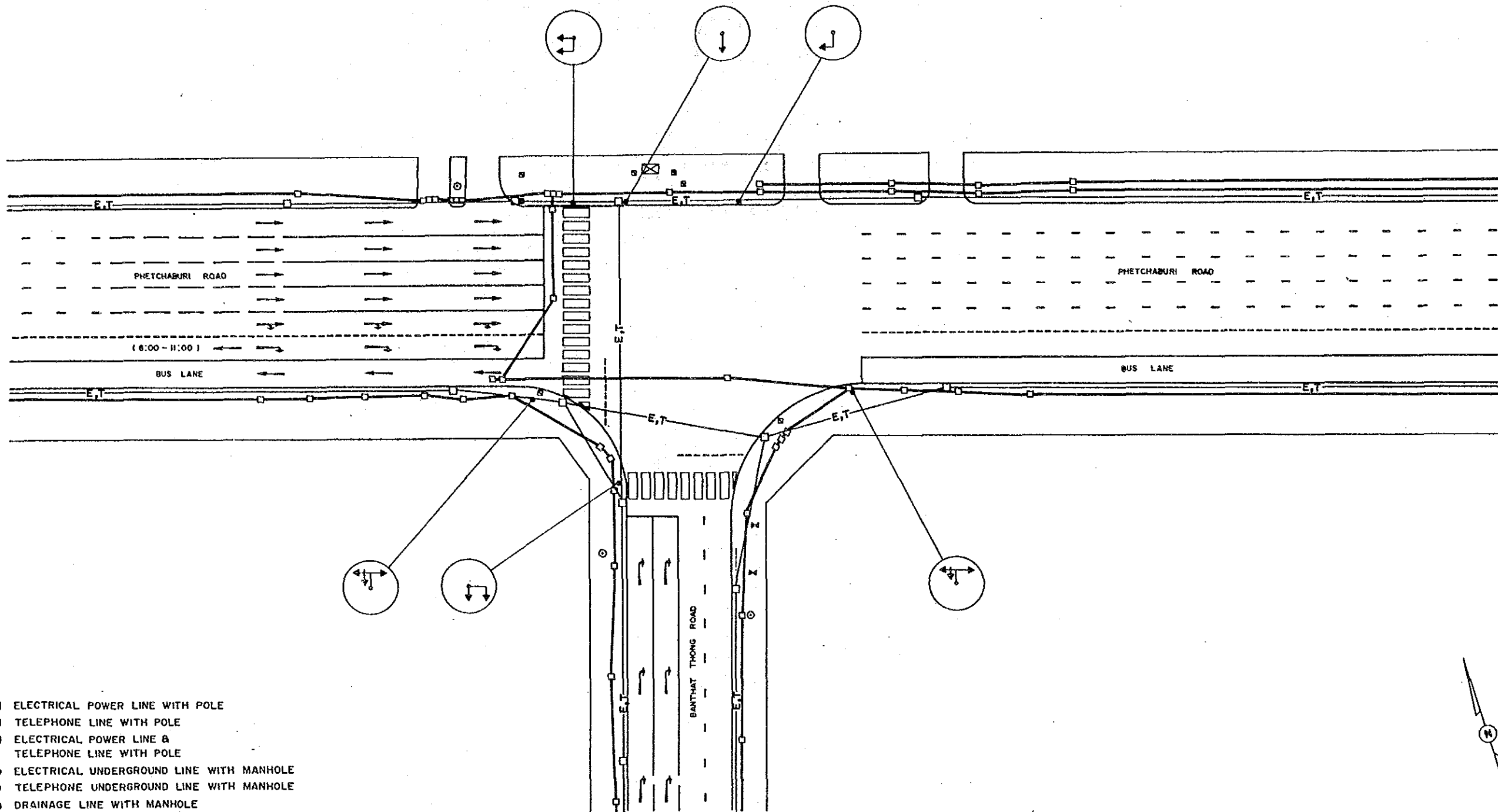
LEGEND

- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊙ LIGHTING POLE
- ⋈ WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊠ TRAFFIC SIGNAL CONTROLLER
- HAND HOLE
- TELEPHONE CAB
- ⏏ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I

EXISTING UTILITY LINES AT INTERSECTION
 PHAYA THAI-CHULALONGKORN UNIVERSITY ENTRANCE

INTERSECTION NO	64	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 1990
		Drawing No	6084
		Total	47 / 143



LEGEND

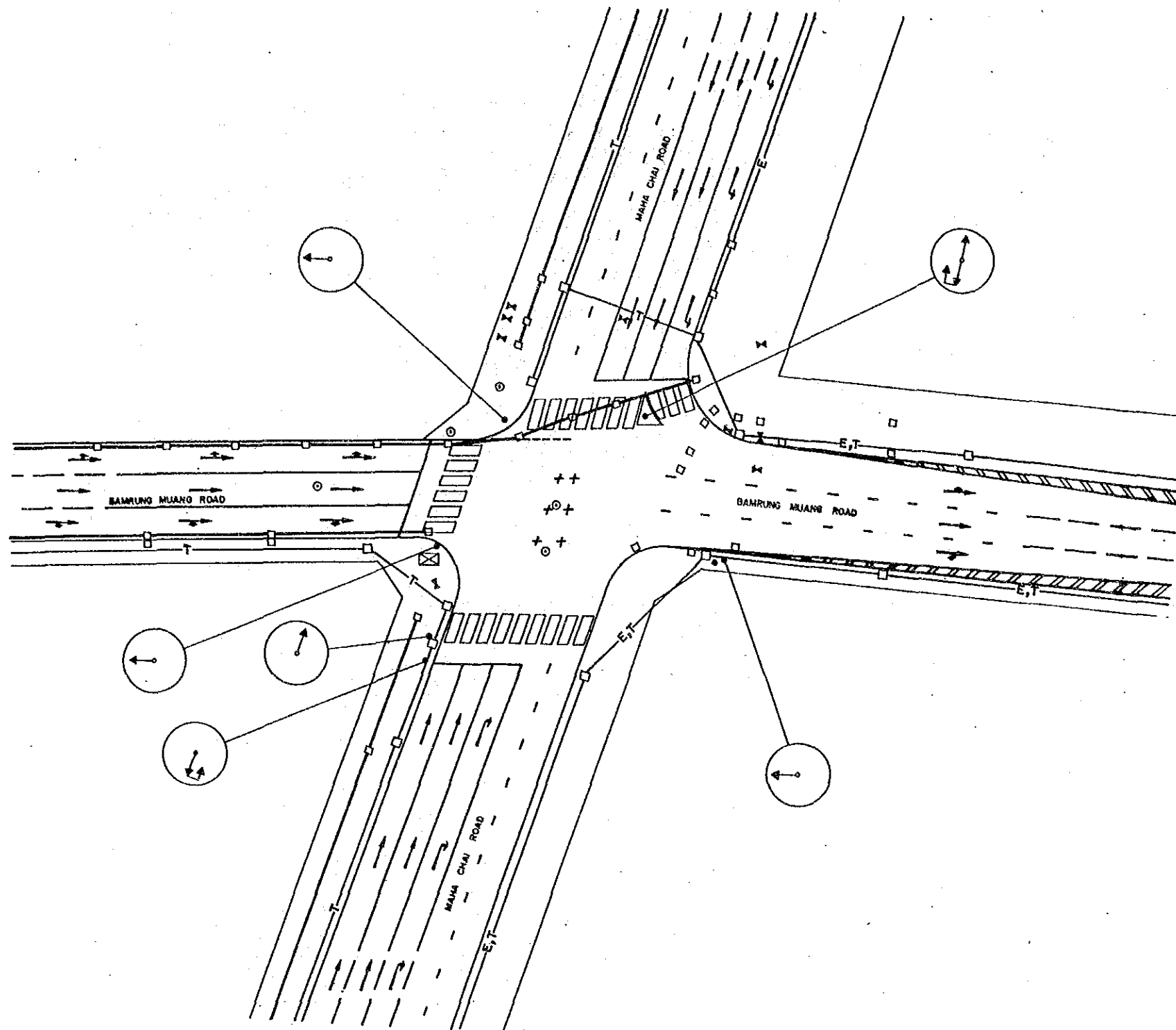
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- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊕ LIGHTING POLE
- ⋈ WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊠ TRAFFIC SIGNAL CONTROLLER
- ⊞ HAND HOLE
- ⊞ TELEPHONE CAB
- ⊞ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I

EXISTING UTILITY LINES AT INTERSECTION

BANTHAT THONG-PHETCHABURI

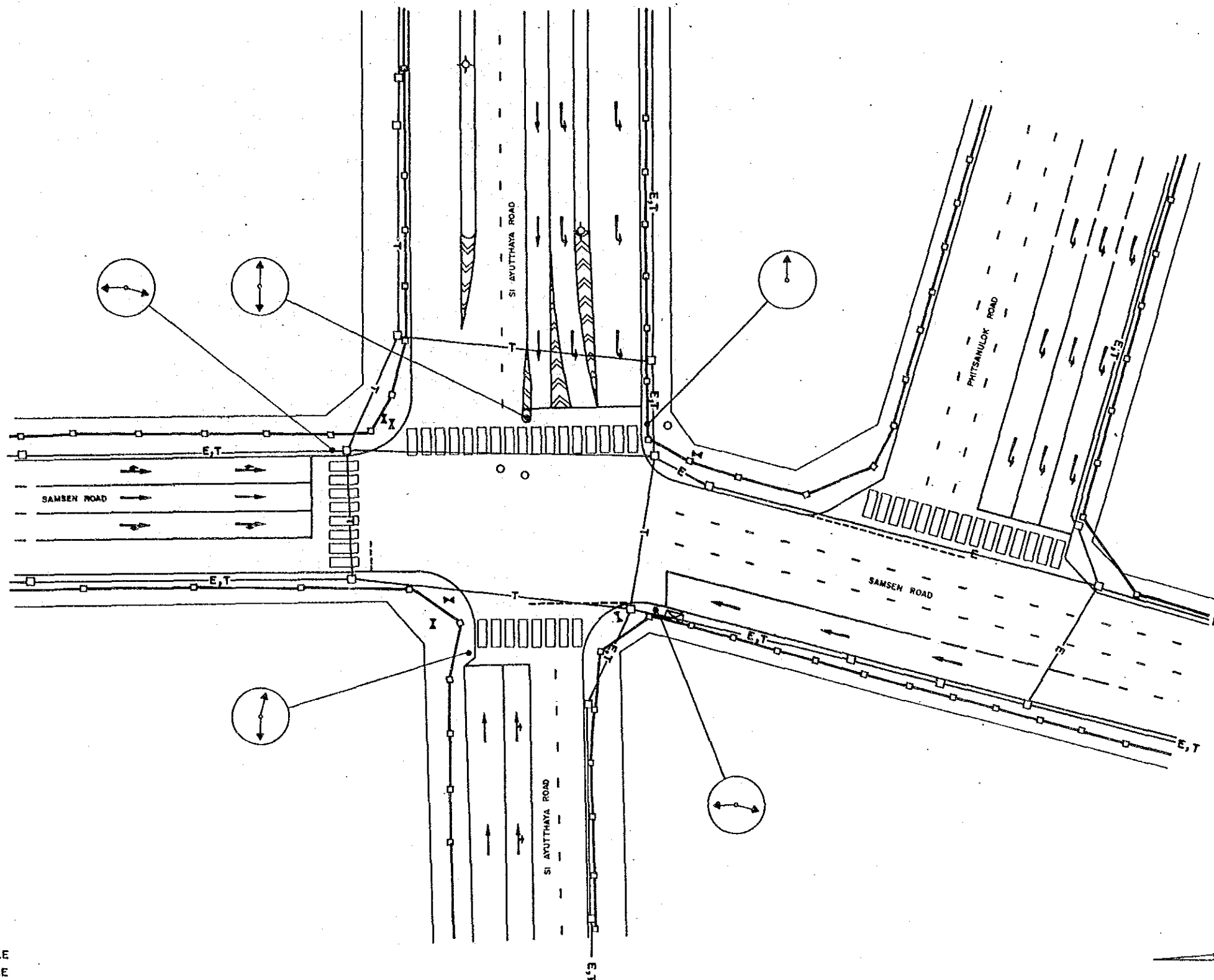
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JICA		BMA		Scale		1 / 500	
Japan International		Bangkok Metropolitan		Drawing NO		6067	
Cooperation Agency		Administration		Date		SEPTEMBER/90	
				Total		48 / 143	



LEGEND

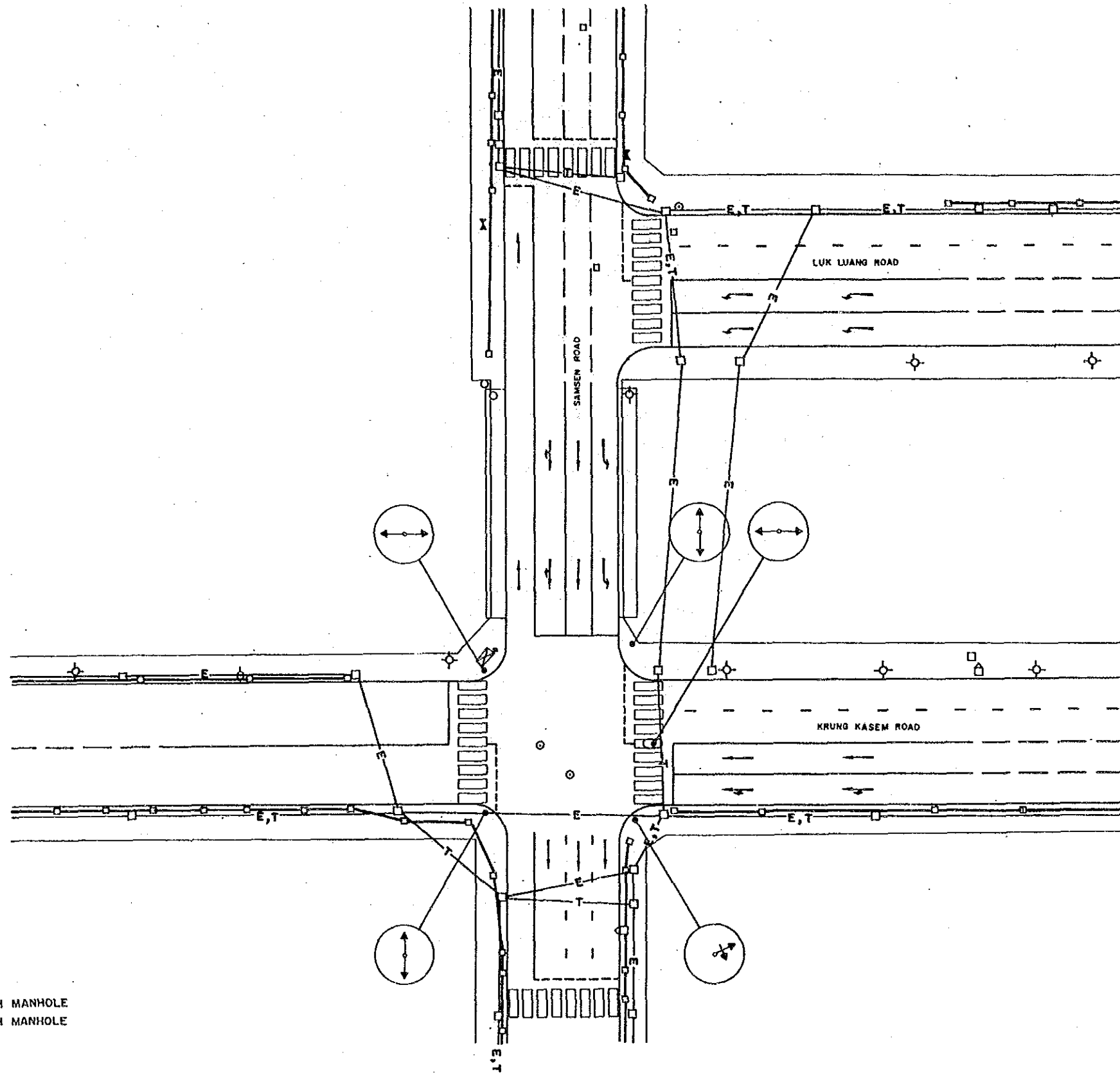
- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- ▭—▭—▭ DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊙ LIGHTING POLE
- ⋈ WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊠ TRAFFIC SIGNAL CONTROLLER
- ▣ HAND HOLE
- TELEPHONE CAB
- △ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
MAHA CHAI-BAMRUNG MUANG			
INTERSECTION NO	70	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 80
		Drawing No	6070
		Total	49 / 143



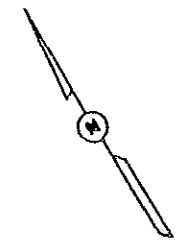
- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊙ LIGHTING POLE
 - ⊕ WATER SUPPLY VALVE
 - TRAFFIC SIGNAL POLE
 - ⊗ TRAFFIC SIGNAL CONTROLLER
 - ⊠ HAND HOLE
 - TELEPHONE CAB
 - △ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
SAMSEN-SI AYUTTHAYA			
INTERSECTION NO	71	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 90
		Drawing No	6071
		Total	50 / 143

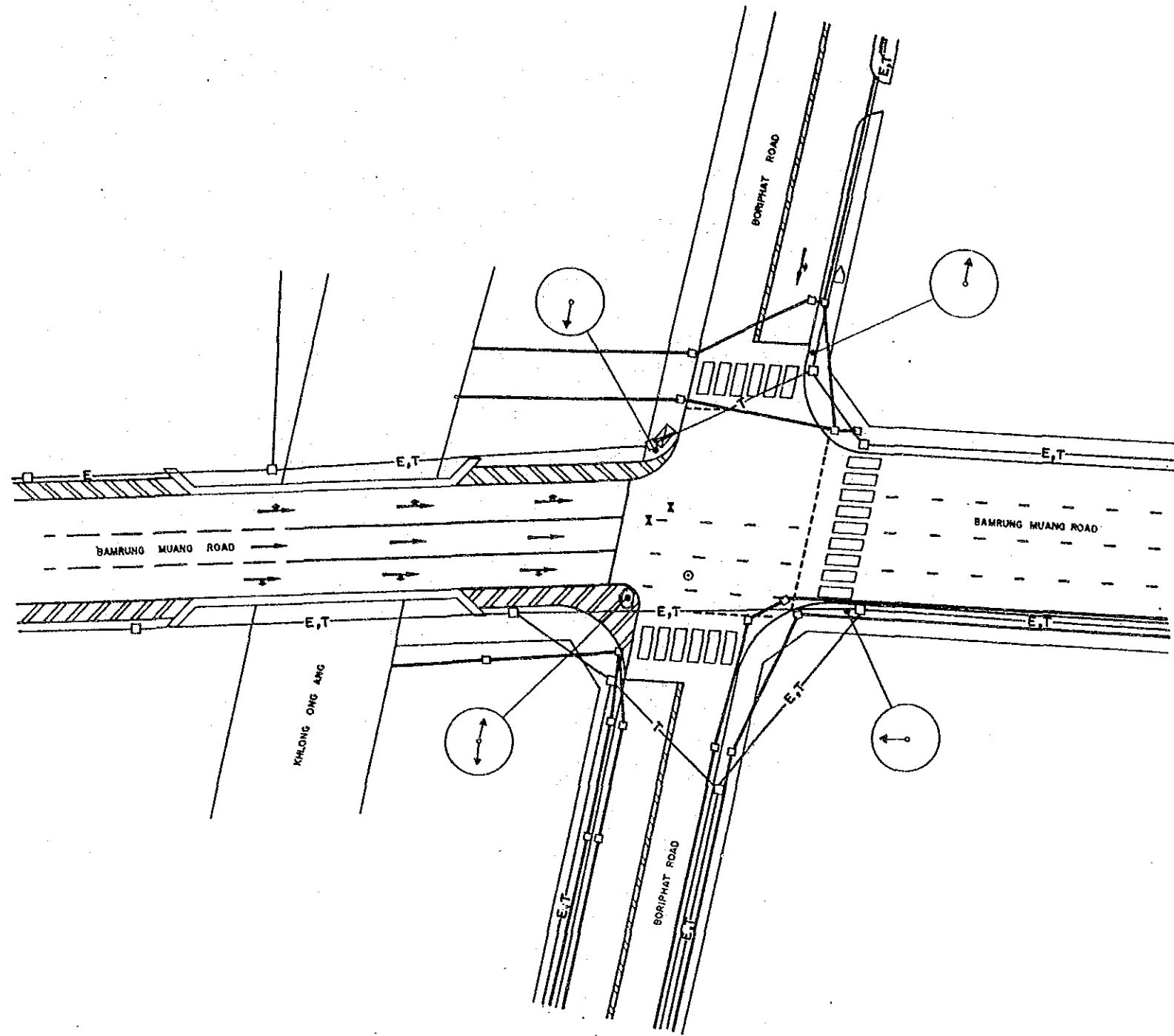


LEGEND

- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ◇ LIGHTING POLE
- ⋈ WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊠ TRAFFIC SIGNAL CONTROLLER
- HAND HOLE
- ☎ TELEPHONE CAB
- ⌒ PUBLIC TELEPHONE

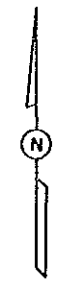


BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
SAMSEN-KRUNG KASEM			
INTERSECTION NO	72	Survey in	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 90
		Drawing NO.	6072
		Total	51 / 143

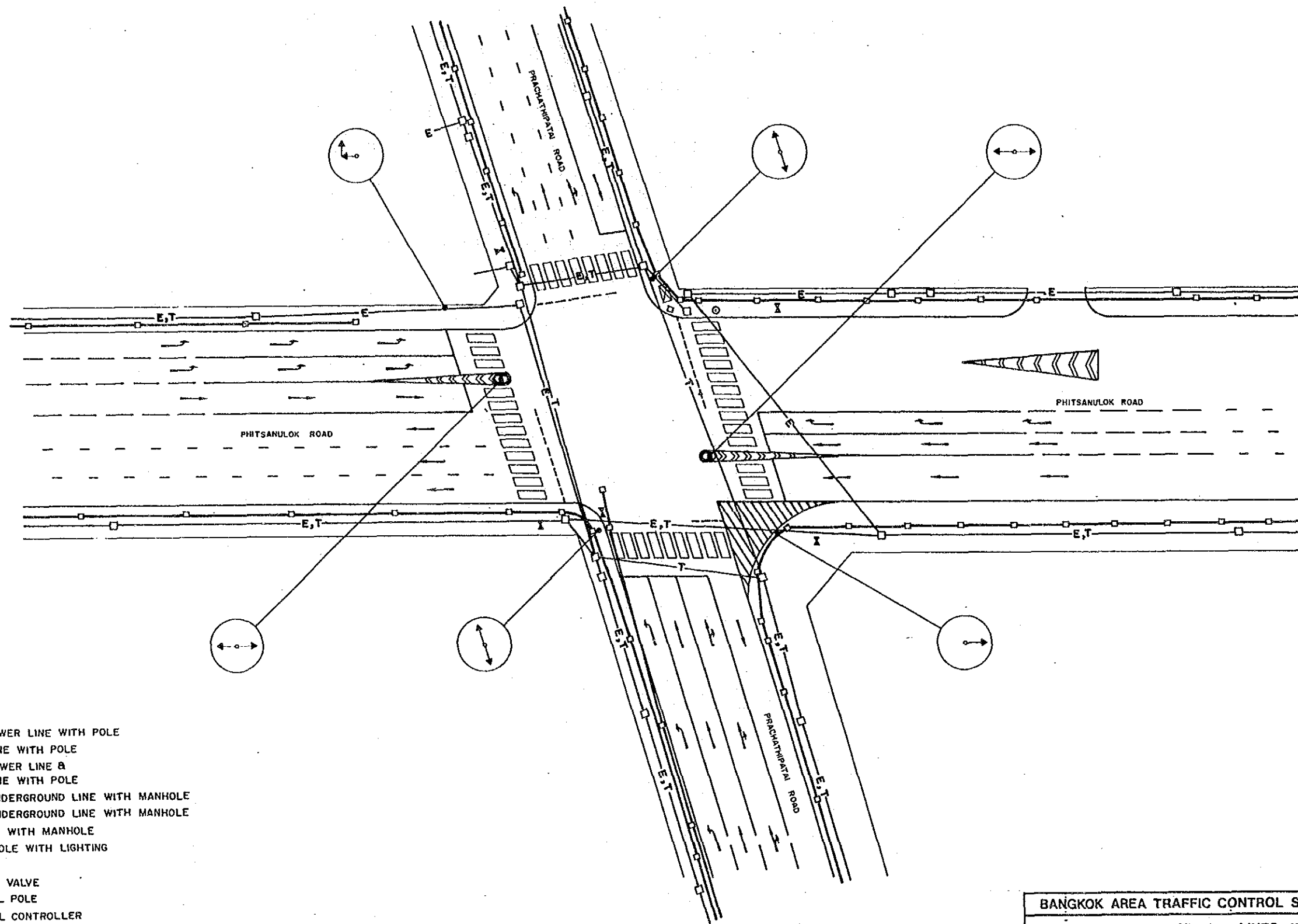


LEGEND

- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- — — — — DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊕ LIGHTING POLE
- ⋈ WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊠ TRAFFIC SIGNAL CONTROLLER
- HAND HOLE
- TELEPHONE CAB
- △ PUBLIC TELEPHONE



BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
BAMRUNG MUANG-BORIPHAT			
INTERSECTION NO	73	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Drawing No	6073
		Date	SEPTEMBER/90
		Total	62 / 143



LEGEND

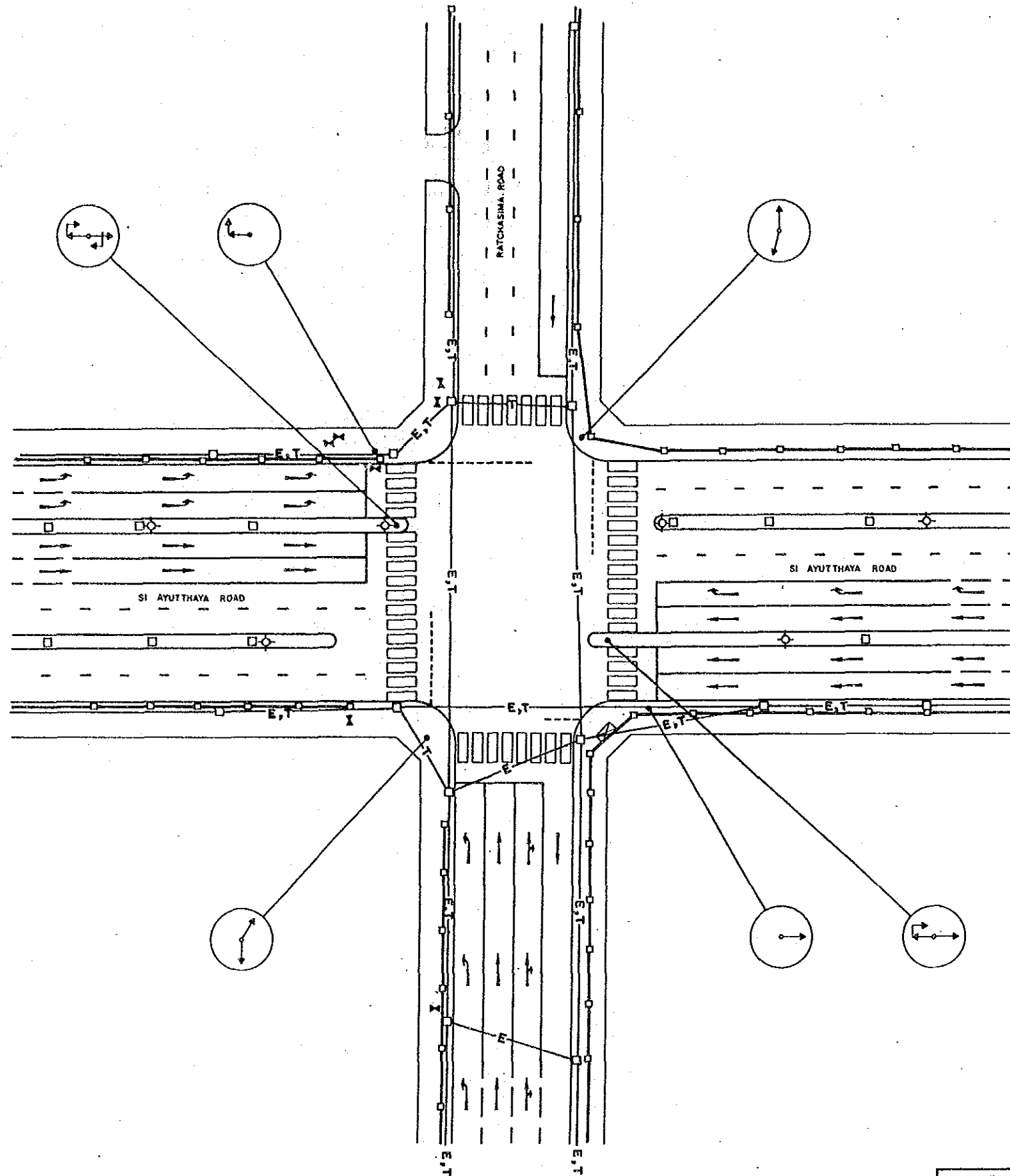
- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊕ LIGHTING POLE
- × WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊠ TRAFFIC SIGNAL CONTROLLER
- ⊠ HAND HOLE
- TELEPHONE CAB
- ⌒ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I

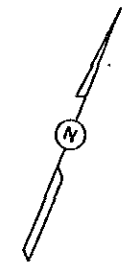
EXISTING UTILITY LINES AT INTERSECTION

PHITSANULOK-PRACHATHIPATAI

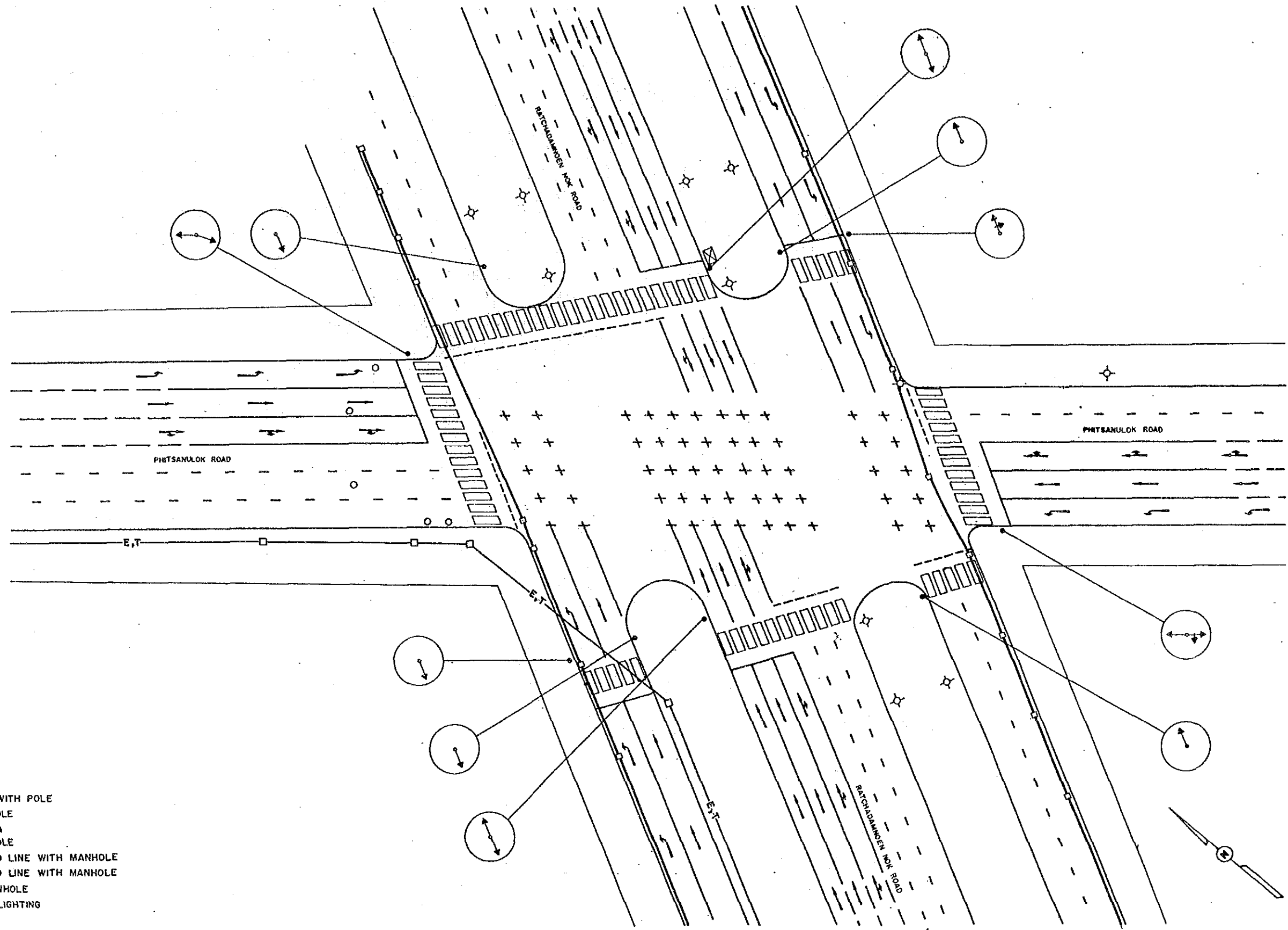
INTERSECTION NO	74	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 89
		Drawing No	6074
		Total	53 / 143



- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊕ LIGHTING POLE
 - ⊕ WATER SUPPLY VALVE
 - ⊕ TRAFFIC SIGNAL POLE
 - ⊕ TRAFFIC SIGNAL CONTROLLER
 - ⊕ HAND HOLE
 - ⊕ TELEPHONE CAB
 - ⊕ PUBLIC TELEPHONE



BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
RATCHASIMA-SI AYUTTHAYA			
INTERSECTION NO	75	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1/500
		Drawing No	6075
		Date	SEPTEMBER 90
		Total	54/143



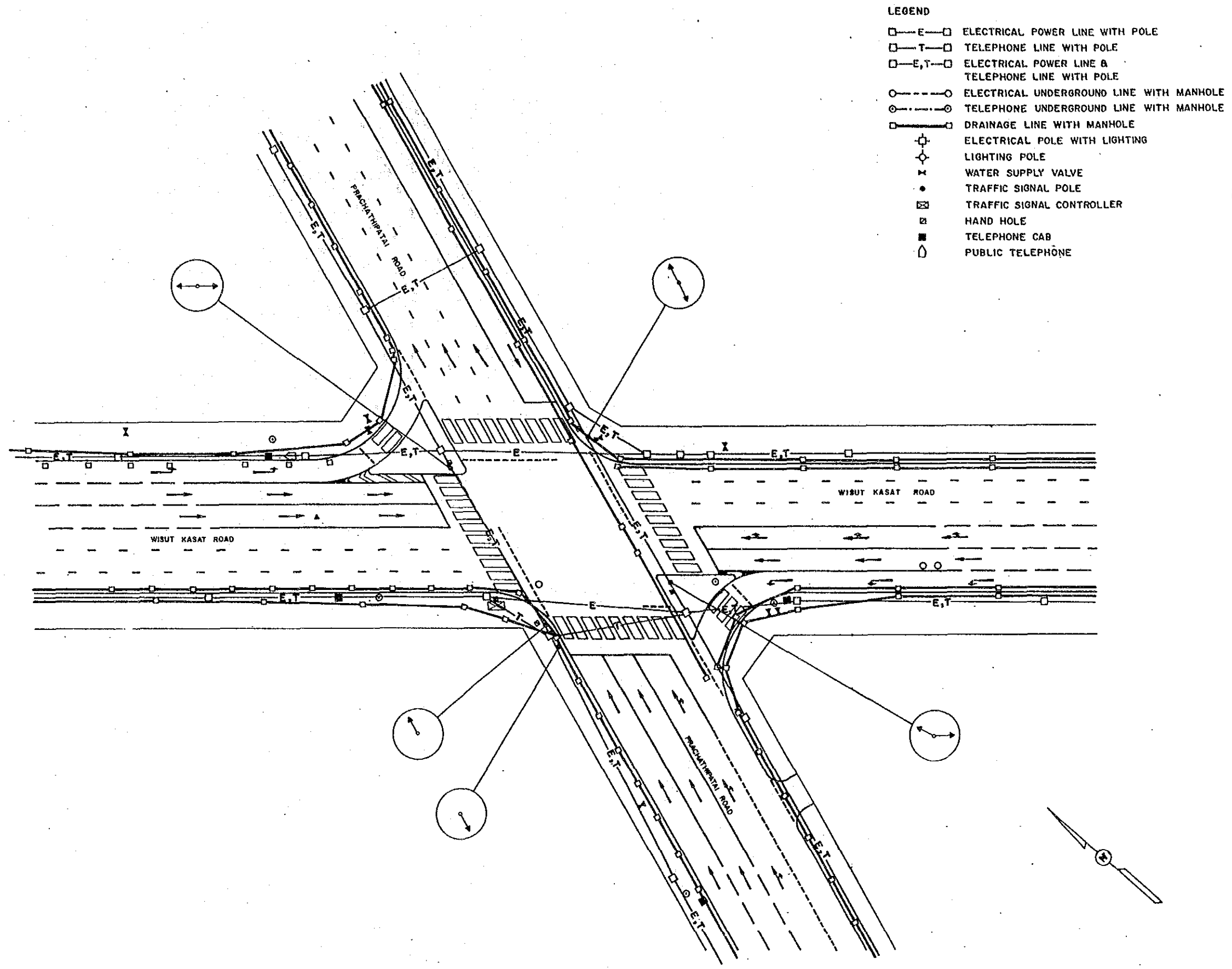
LEGEND

- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊕ LIGHTING POLE
- × WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊠ TRAFFIC SIGNAL CONTROLLER
- HAND HOLE
- TELEPHONE CAB
- ⊕ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT: STAGE I.

EXISTING UTILITY LINES AT INTERSECTION
RATCHADAMNOEN NOK-PHITSANULOK

INTERSECTION NO		76	Survey In	MAY 1960
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1/500	Drawing No. 6076
		Date	SEPTEMBER 1960	Total 55/145

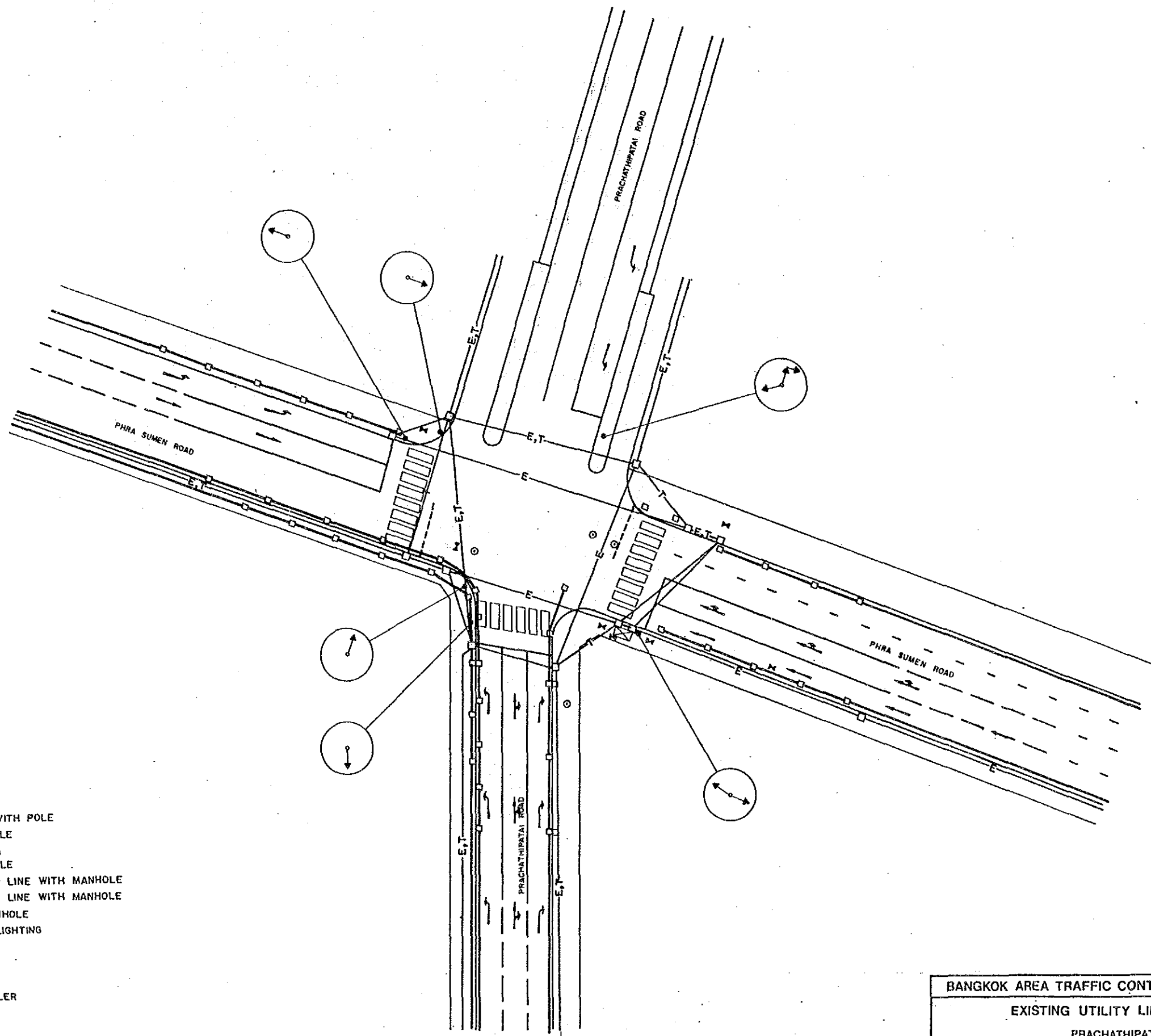


- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊕ LIGHTING POLE
 - ⊕ WATER SUPPLY VALVE
 - ⊕ TRAFFIC SIGNAL POLE
 - ⊕ TRAFFIC SIGNAL CONTROLLER
 - ⊕ HAND HOLE
 - ⊕ TELEPHONE CAB
 - ⊕ PUBLIC TELEPHONE

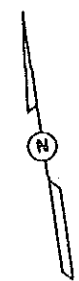
BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I

**EXISTING UTILITY LINES AT INTERSECTION
PRACHATHIPATAI-WISUT KASAT**

INTERSECTION NO	77	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 1990
		Drawing No	6077
		Total	66 / 143



- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊙ LIGHTING POLE
 - ⋈ WATER SUPPLY VALVE
 - TRAFFIC SIGNAL POLE
 - ⊠ TRAFFIC SIGNAL CONTROLLER
 - HAND HOLE
 - TELEPHONE CAB
 - ⏏ PUBLIC TELEPHONE

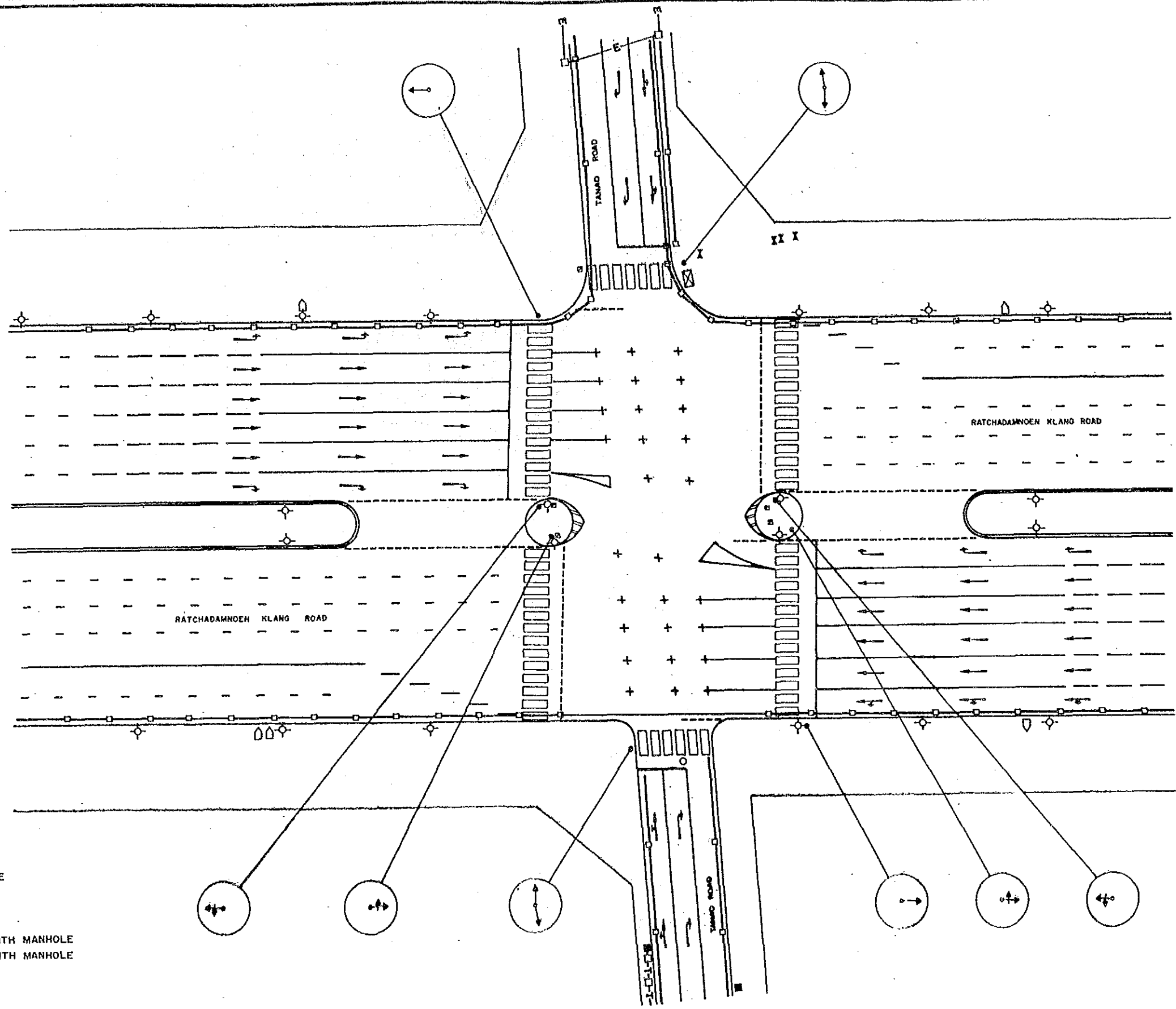


BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I

EXISTING UTILITY LINES AT INTERSECTION

PRACHATHIPATAI-PHRA SUMEN

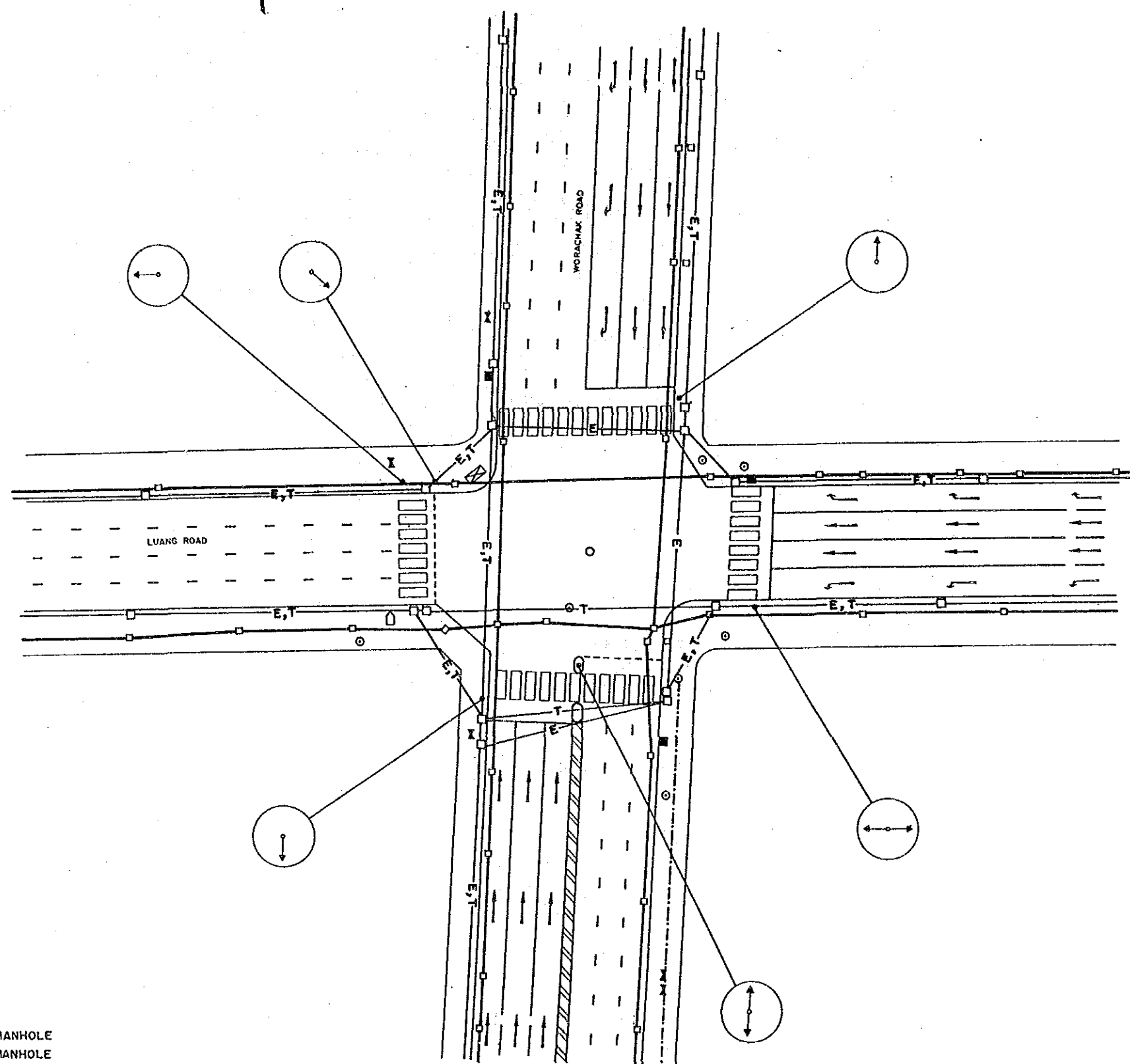
INTERSECTION NO 78		Survey In MAY 1990	
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale 1 / 500	Drawing NO 6078
		Date SEPTEMBER, 90	Total 87 / 143



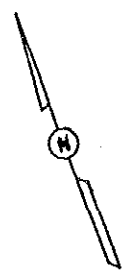
LEGEND

- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- — — — — DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊕ LIGHTING POLE
- ⋈ WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊠ TRAFFIC SIGNAL CONTROLLER
- ⊞ HAND HOLE
- TELEPHONE CAB
- ⏏ PUBLIC TELEPHONE

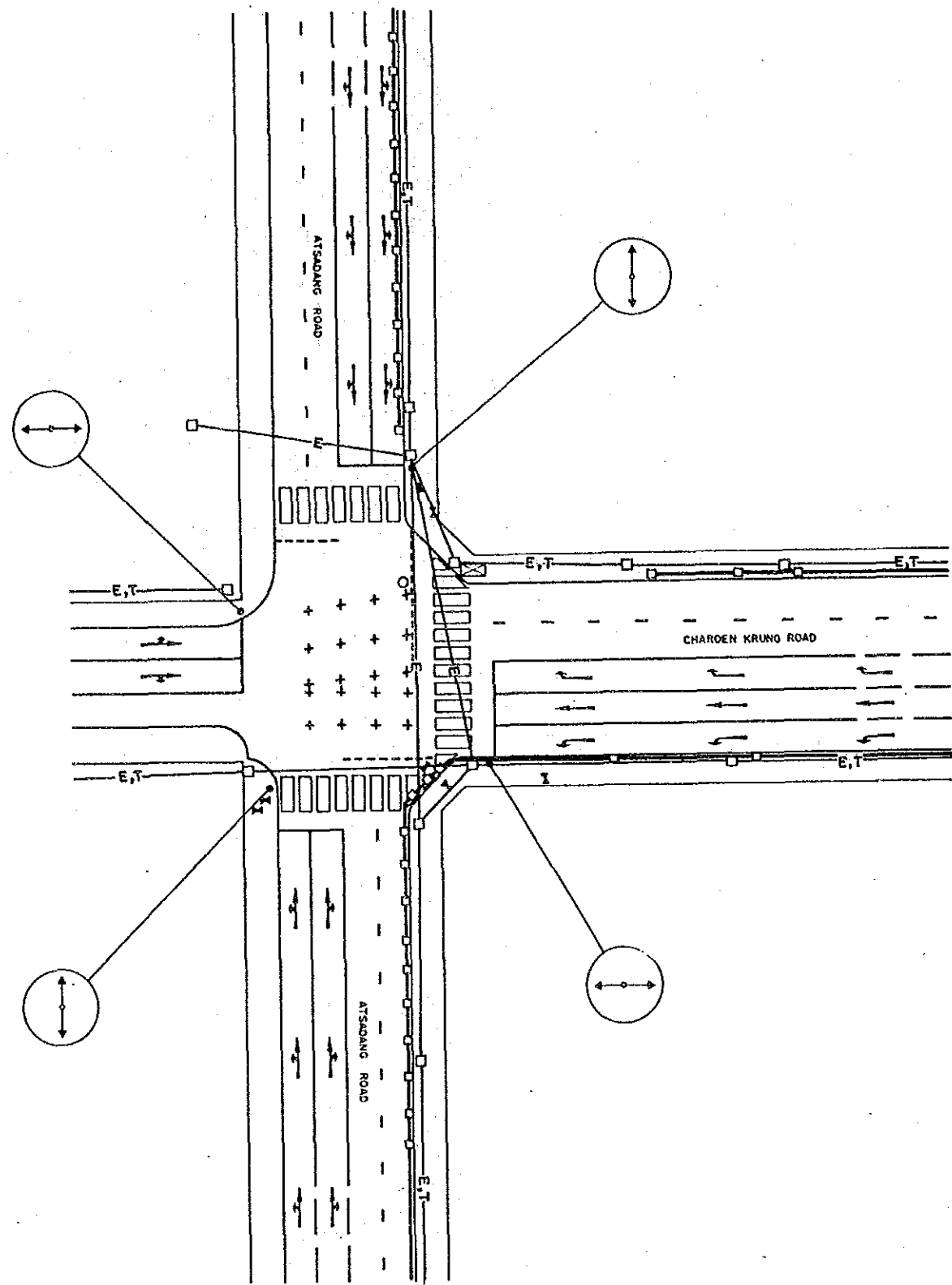
BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
TANAO-RATCHADAMNOEN KLANG			
INTERSECTION NO	79	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 1990
		Drawing NR	6079
		Total	58 / 143



- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ◇ LIGHTING POLE
 - ⋈ WATER SUPPLY VALVE
 - TRAFFIC SIGNAL POLE
 - ⊠ TRAFFIC SIGNAL CONTROLLER
 - ⊞ HAND HOLE
 - TELEPHONE CAB
 - △ PUBLIC TELEPHONE

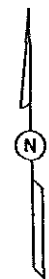


BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
WORACHAK-LUANG			
INTERSECTION NO	80	Survey In .. MAY 1990	
JICA	BMA	Scale	1 / 500
Japan International	Bangkok Metropolitan	Drawing NO	8080
Cooperation Agency	Administration	Date	SEPTEMBER, 90
		Total	59 / 143



LEGEND

- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊙ LIGHTING POLE
- ⋈ WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊠ TRAFFIC SIGNAL CONTROLLER
- ⊞ HAND HOLE
- TELEPHONE CAB
- ⏏ PUBLIC TELEPHONE

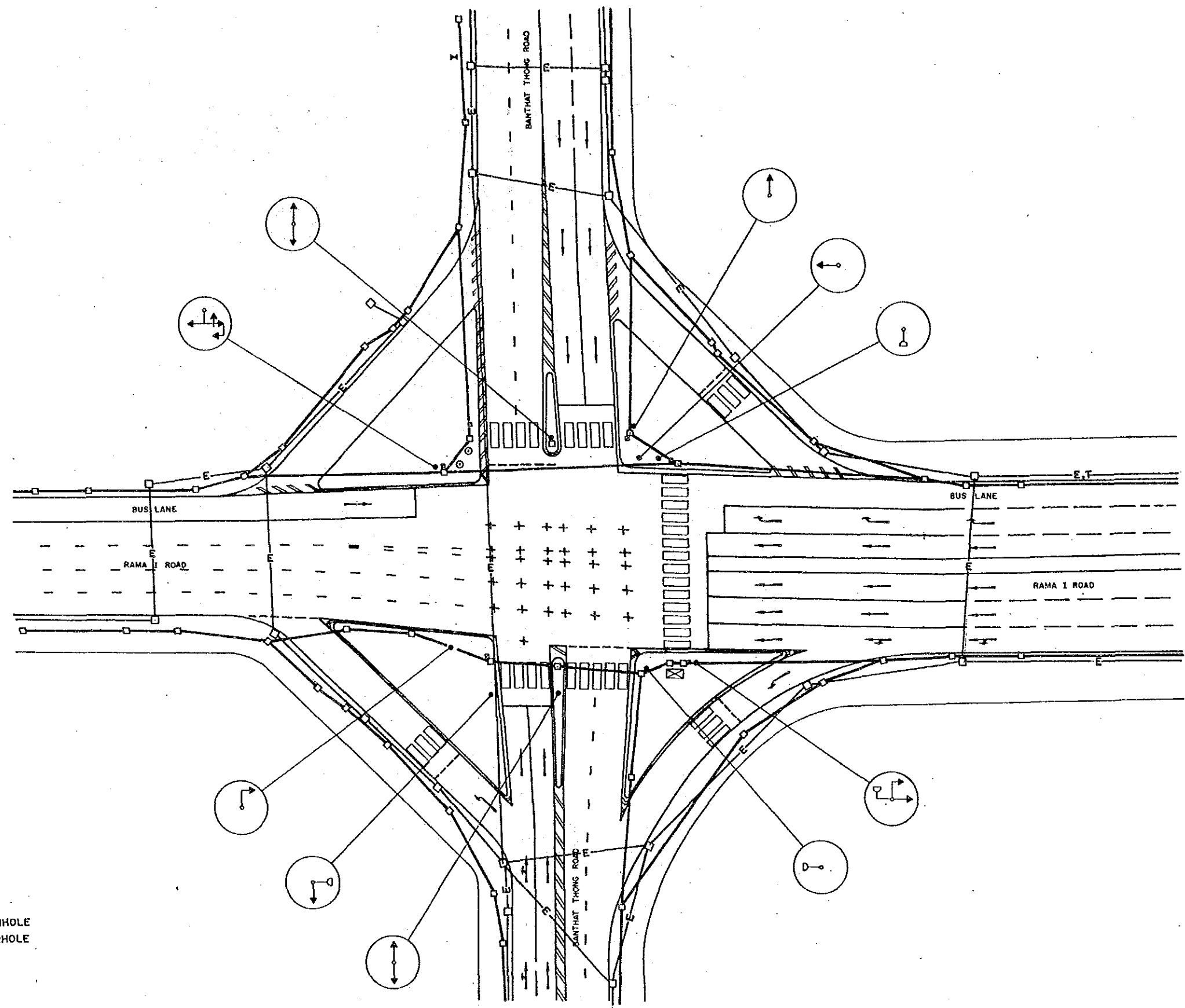


BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I

EXISTING UTILITY LINES AT INTERSECTION

ATSADANG-CHAROEN KRUNG

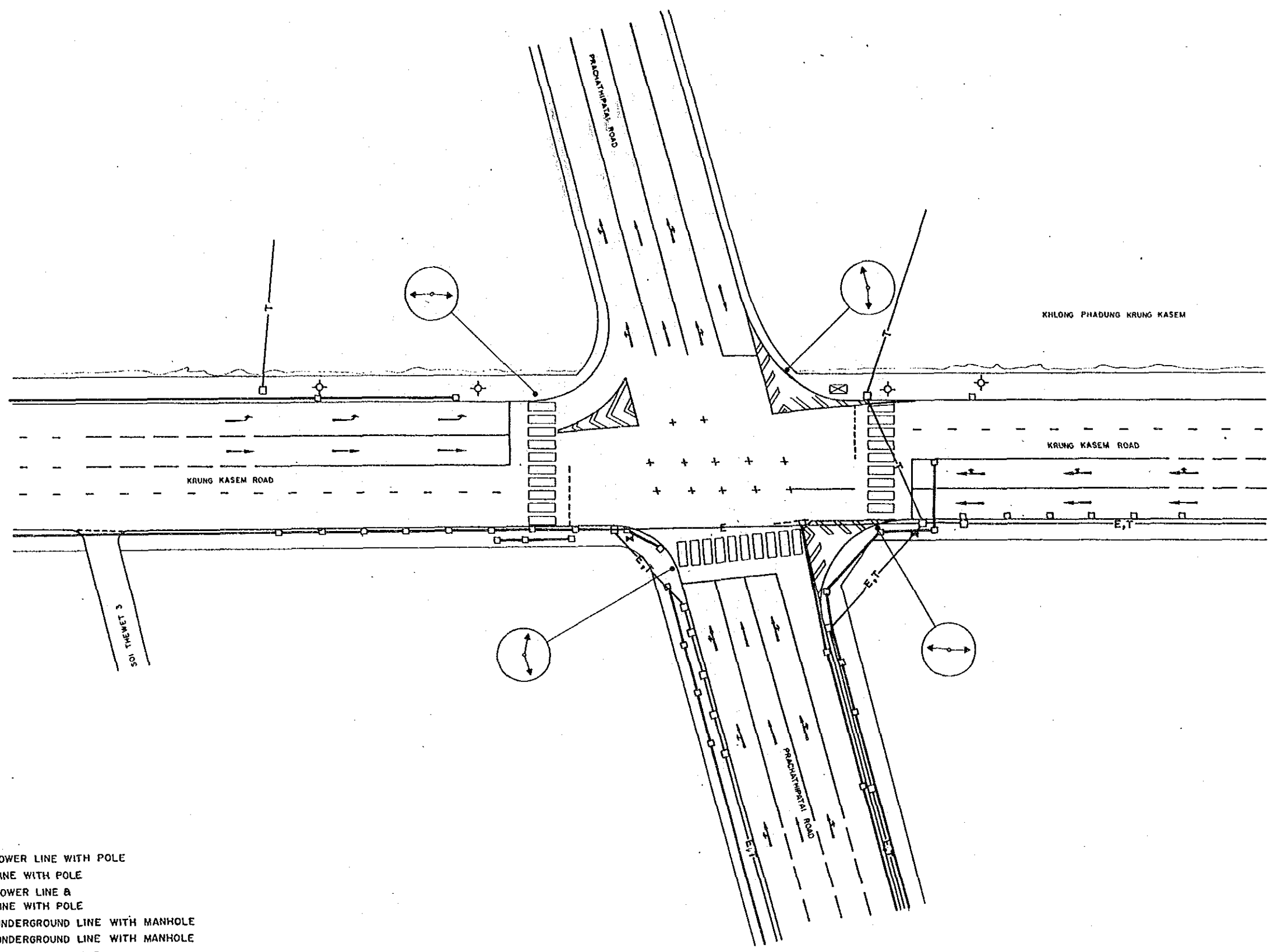
INTERSECTION NO		81	Survey In		MAY 1990
JICA	BMA	Scale		1/500	Drawing NR
Japan International	Bangkok Metropolitan	Date		SEPTEMBER 1990	Total
Cooperation Agency	Administration				60 / 143



- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊕ LIGHTING POLE
 - × WATER SUPPLY VALVE
 - TRAFFIC SIGNAL POLE
 - ⊠ TRAFFIC SIGNAL CONTROLLER
 - ⊠ HAND HOLE
 - TELEPHONE CAB
 - ⏏ PUBLIC TELEPHONE

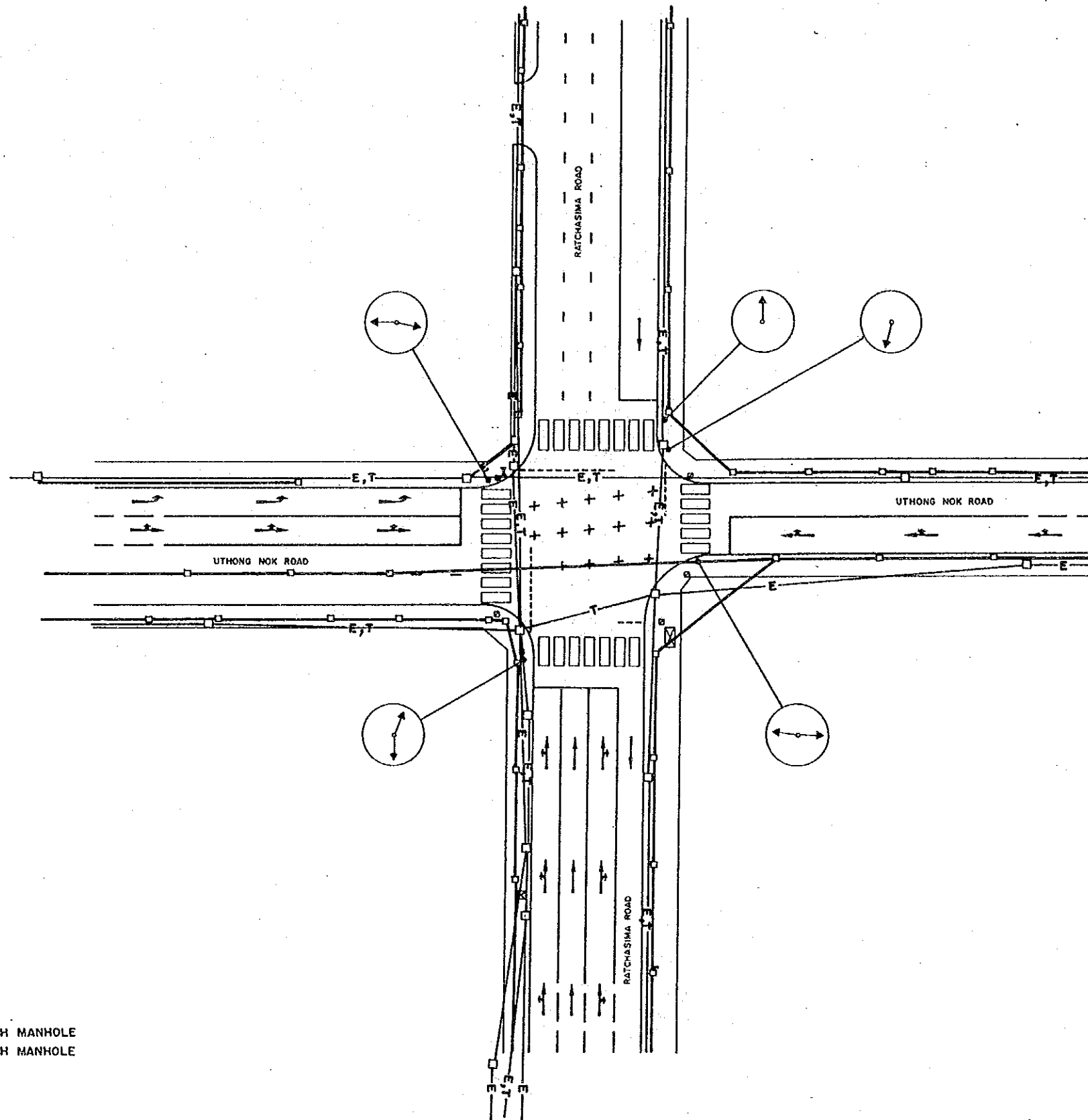


BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
BANTHAT THONG-RAMA I			
INTERSECTION NO	82	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 1990
		Drawing NO	6082
		Total	61 / 143



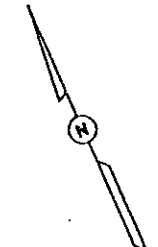
- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊙ LIGHTING POLE
 - × WATER SUPPLY VALVE
 - TRAFFIC SIGNAL POLE
 - ⊠ TRAFFIC SIGNAL CONTROLLER
 - ▣ HAND HOLE
 - TELEPHONE CAB
 - △ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
PRACHATHIPATAI-KRUNG KASEM			
INTERSECTION NO	83	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Drawing No	8083
		Date	OCTOBER 1990
		Total	82 / 143

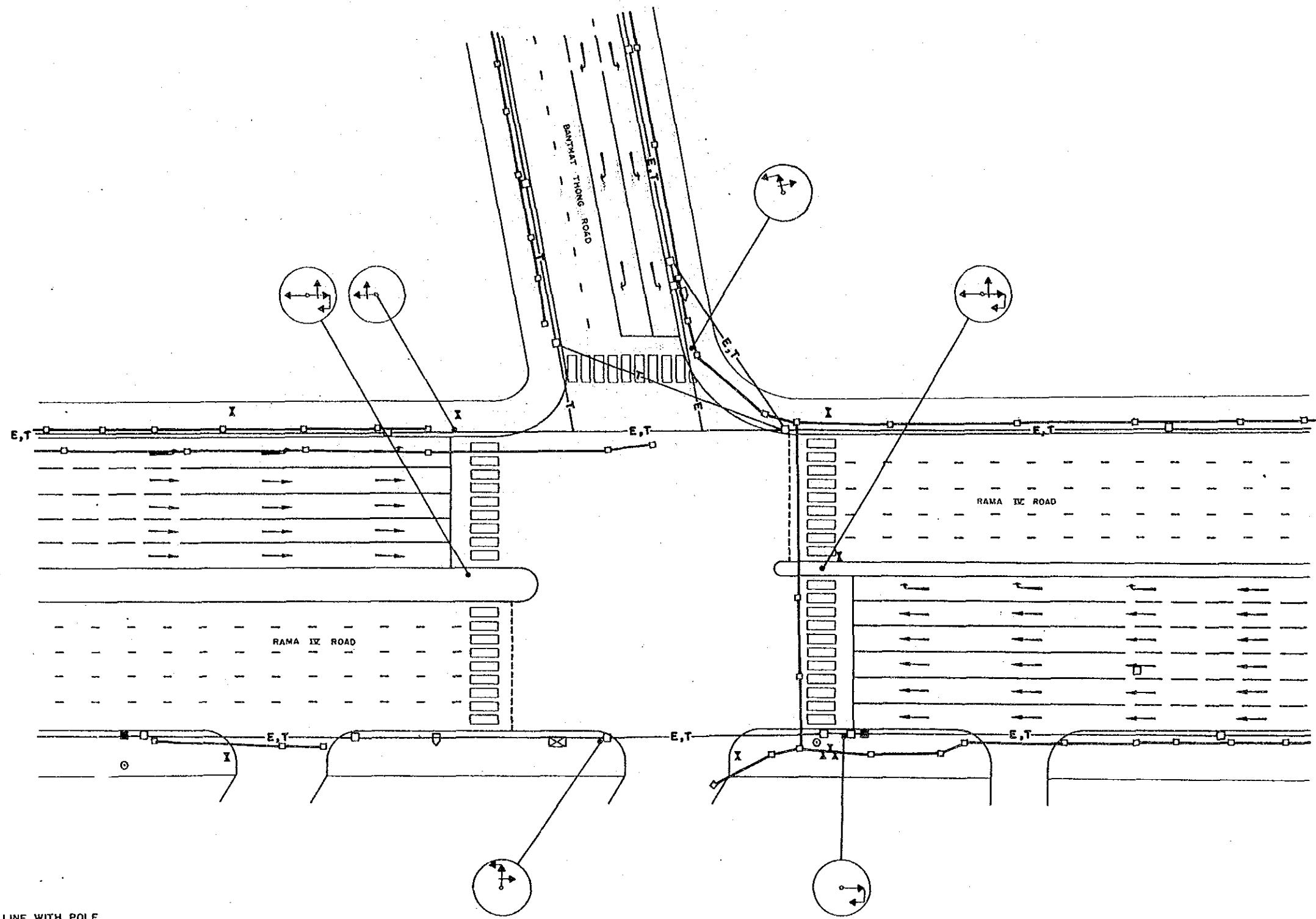


LEGEND

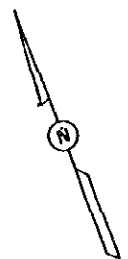
- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊕ LIGHTING POLE
- ⋈ WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊠ TRAFFIC SIGNAL CONTROLLER
- ⊞ HAND HOLE
- TELEPHONE CAB
- ⏏ PUBLIC TELEPHONE



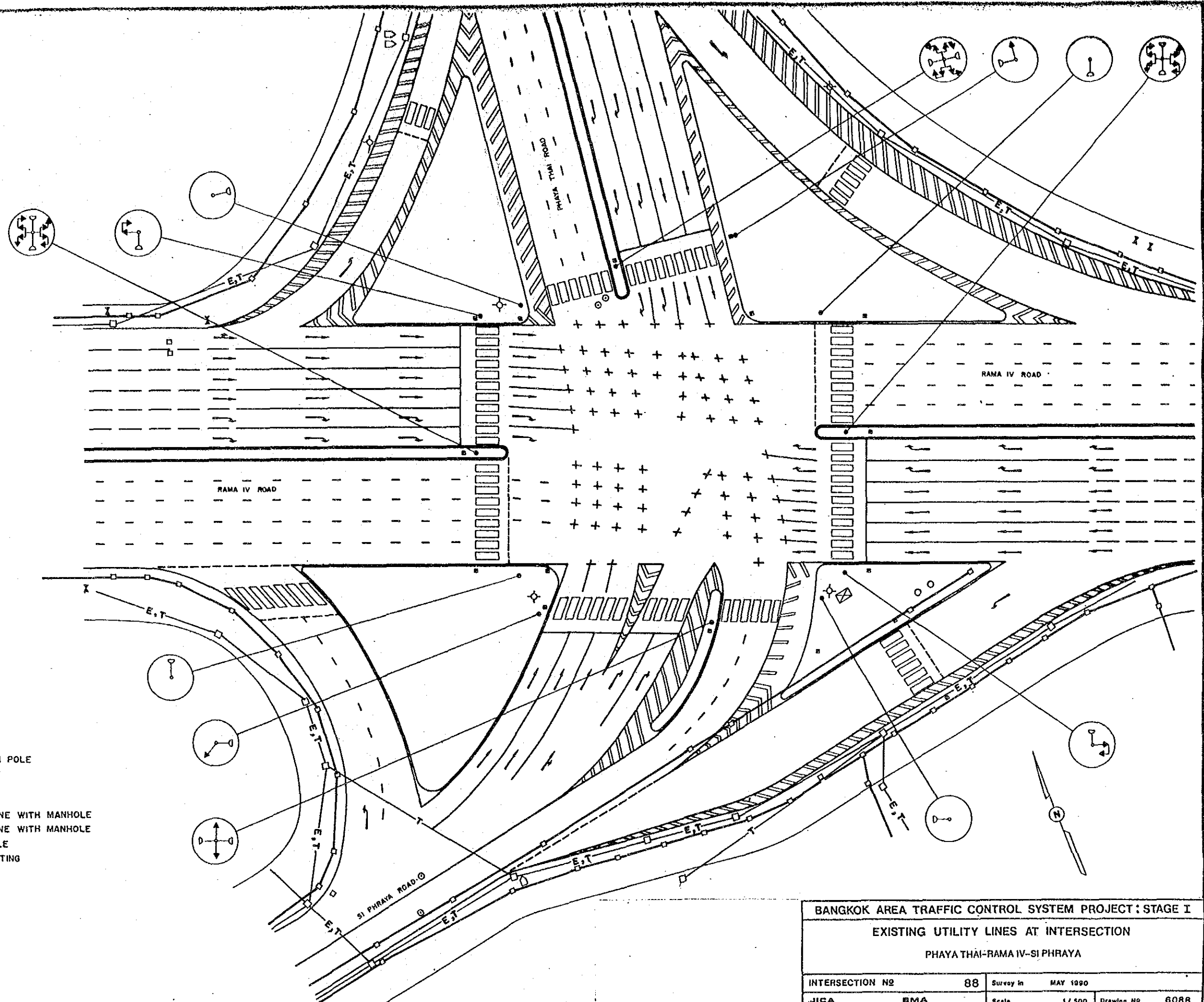
BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
RATCHASIMA-UTHONG NOK			
INTERSECTION NO	84	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Drawing NO	6084
		Date	SEPTEMBER 1990
		Total	63 / 143



- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊕ LIGHTING POLE
 - ⊕ WATER SUPPLY VALVE
 - TRAFFIC SIGNAL POLE
 - ⊕ TRAFFIC SIGNAL CONTROLLER
 - ⊕ HAND HOLE
 - ⊕ TELEPHONE CAB
 - ⊕ PUBLIC TELEPHONE

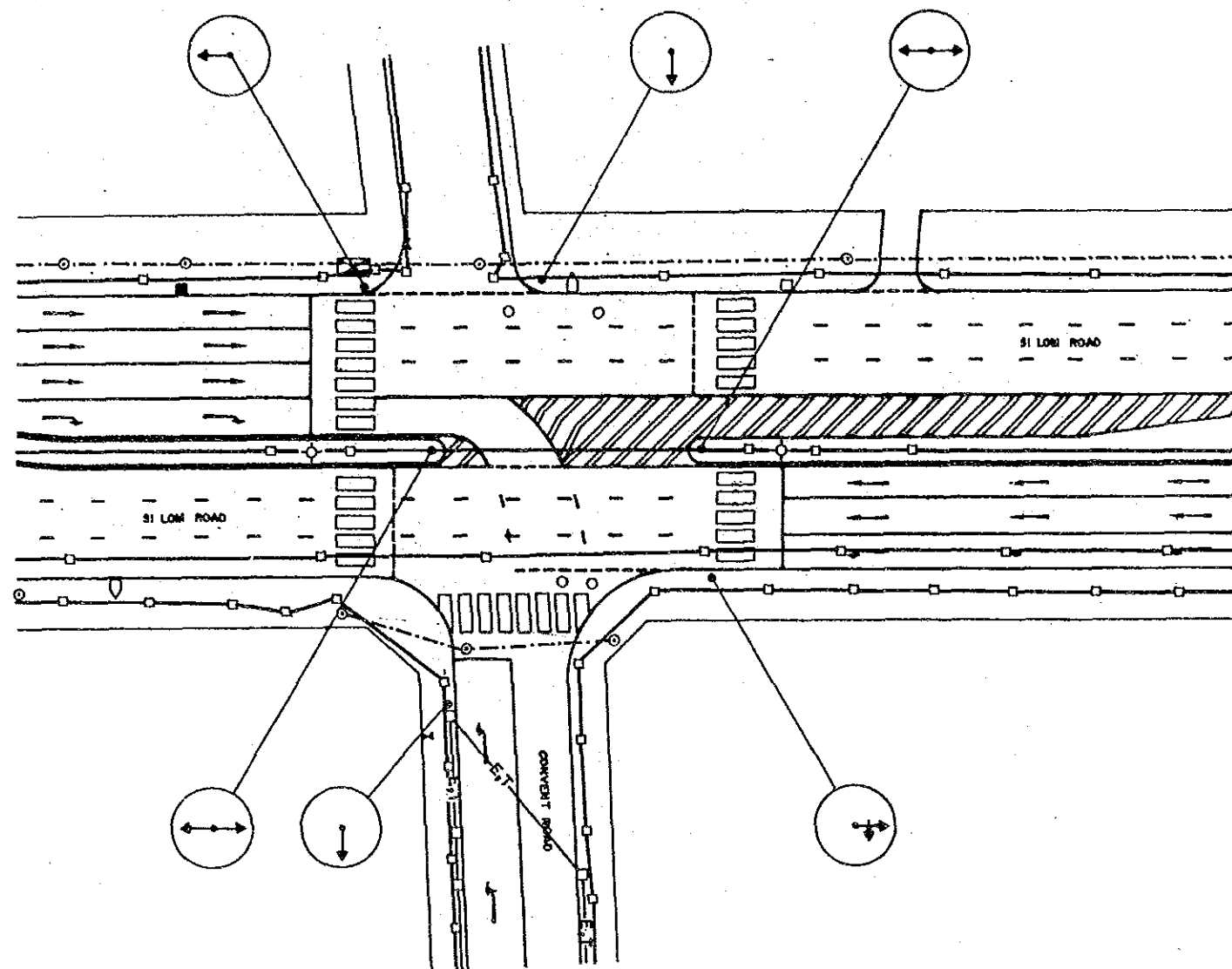


BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT: STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
RAMA IV-BANTHAT THONG			
INTERSECTION NO	87	Survey in	MAY 1990
JICA	BMA	Scale	1 / 500
Japan International	Bangkok Metropolitan	Date	(SEPTEMBER)'90
Cooperation Agency	Administration	Total	64 / 143



- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - — — — — DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊕ LIGHTING POLE
 - × WATER SUPPLY VALVE
 - TRAFFIC SIGNAL POLE
 - ⊠ TRAFFIC SIGNAL CONTROLLER
 - HAND HOLE
 - TELEPHONE CAB
 - ⊕ PUBLIC TELEPHONE

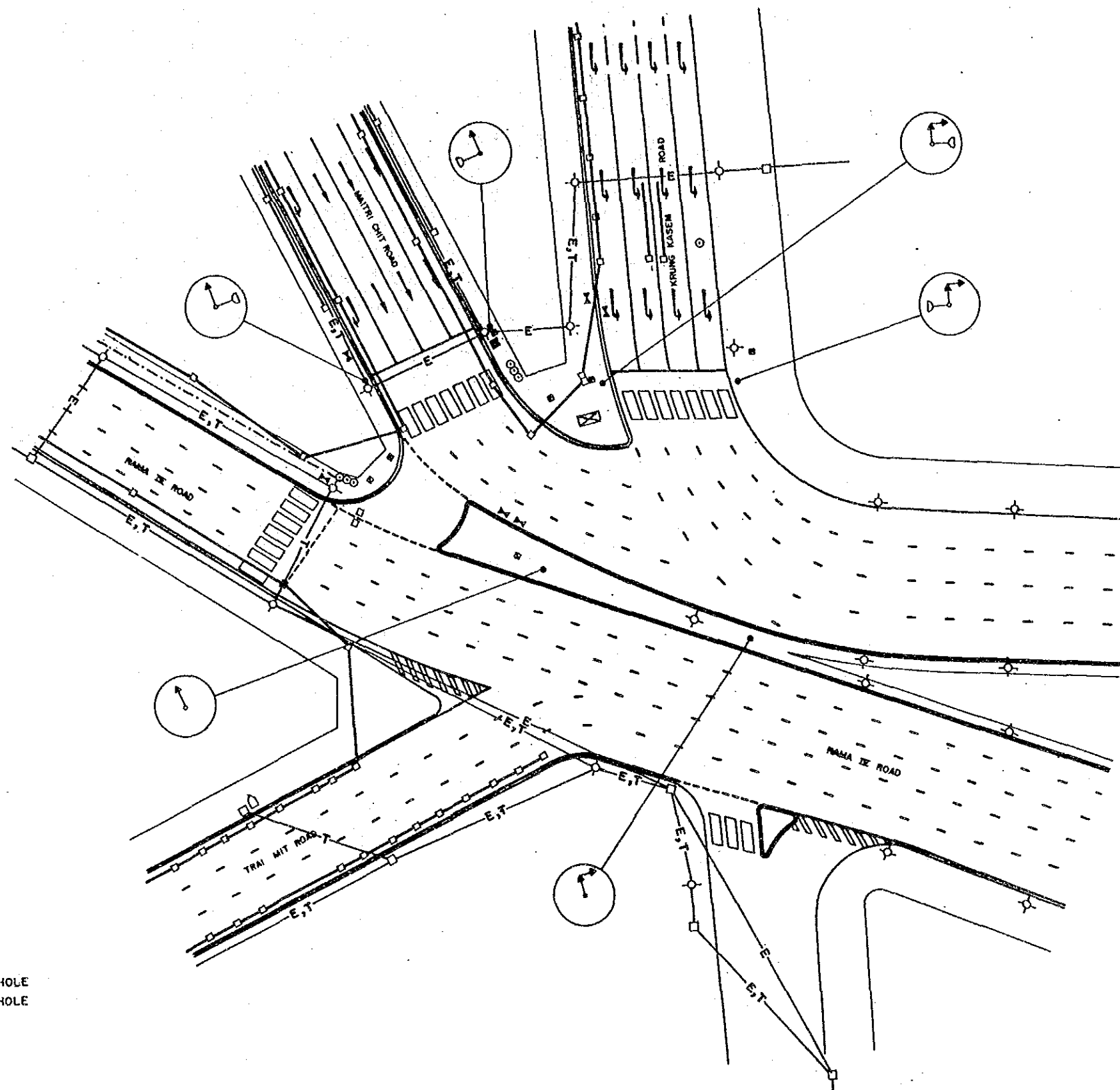
BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
PHAYA THAI-RAMA IV-SI PHRAYA			
INTERSECTION NO	88	Survey in	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 90
		Drawing No	6088
		Total	65 / 143



LEGEND

- E—□ ELECTRICAL POWER LINE WITH POLE
- T—□ TELEPHONE LINE WITH POLE
- E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
- ELECTRICAL UNDERGROUND LINE WITH MANHOLE
- TELEPHONE UNDERGROUND LINE WITH MANHOLE
- — — — — DRAINAGE LINE WITH MANHOLE
- ⊕ ELECTRICAL POLE WITH LIGHTING
- ⊕ LIGHTING POLE
- ⊕ WATER SUPPLY VALVE
- TRAFFIC SIGNAL POLE
- ⊠ TRAFFIC SIGNAL CONTROLLER
- ⊠ HAND HOLE
- ⊠ TELEPHONE CAB
- ⊠ PUBLIC TELEPHONE

BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
SI LOM-CONVENT			
INTERSECTION NO	89	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 86
		Drawing No	6089
		Total	86 / 143



- LEGEND**
- E—□ ELECTRICAL POWER LINE WITH POLE
 - T—□ TELEPHONE LINE WITH POLE
 - E,T—□ ELECTRICAL POWER LINE & TELEPHONE LINE WITH POLE
 - - - ○ ELECTRICAL UNDERGROUND LINE WITH MANHOLE
 - - - ○ TELEPHONE UNDERGROUND LINE WITH MANHOLE
 - △- - - △ DRAINAGE LINE WITH MANHOLE
 - ⊕ ELECTRICAL POLE WITH LIGHTING
 - ⊙ LIGHTING POLE
 - × WATER SUPPLY VALVE
 - TRAFFIC SIGNAL POLE
 - ⊠ TRAFFIC SIGNAL CONTROLLER
 - ⊞ HAND HOLE
 - ⊞ TELEPHONE CAB
 - ⊞ PUBLIC TELEPHONE



BANGKOK AREA TRAFFIC CONTROL SYSTEM PROJECT : STAGE I			
EXISTING UTILITY LINES AT INTERSECTION			
KRUNG KASEM-MAITRI CHIT-RAMA IV-TRAI MIT			
INTERSECTION NO	93	Survey In	MAY 1990
JICA Japan International Cooperation Agency	BMA Bangkok Metropolitan Administration	Scale	1 / 500
		Date	SEPTEMBER 1990
		Drawing No	6093
		Total	67 / 143