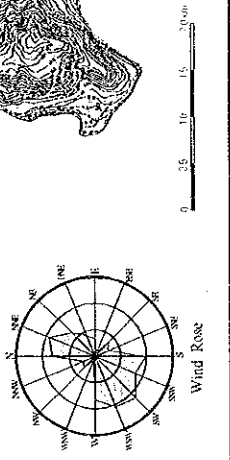


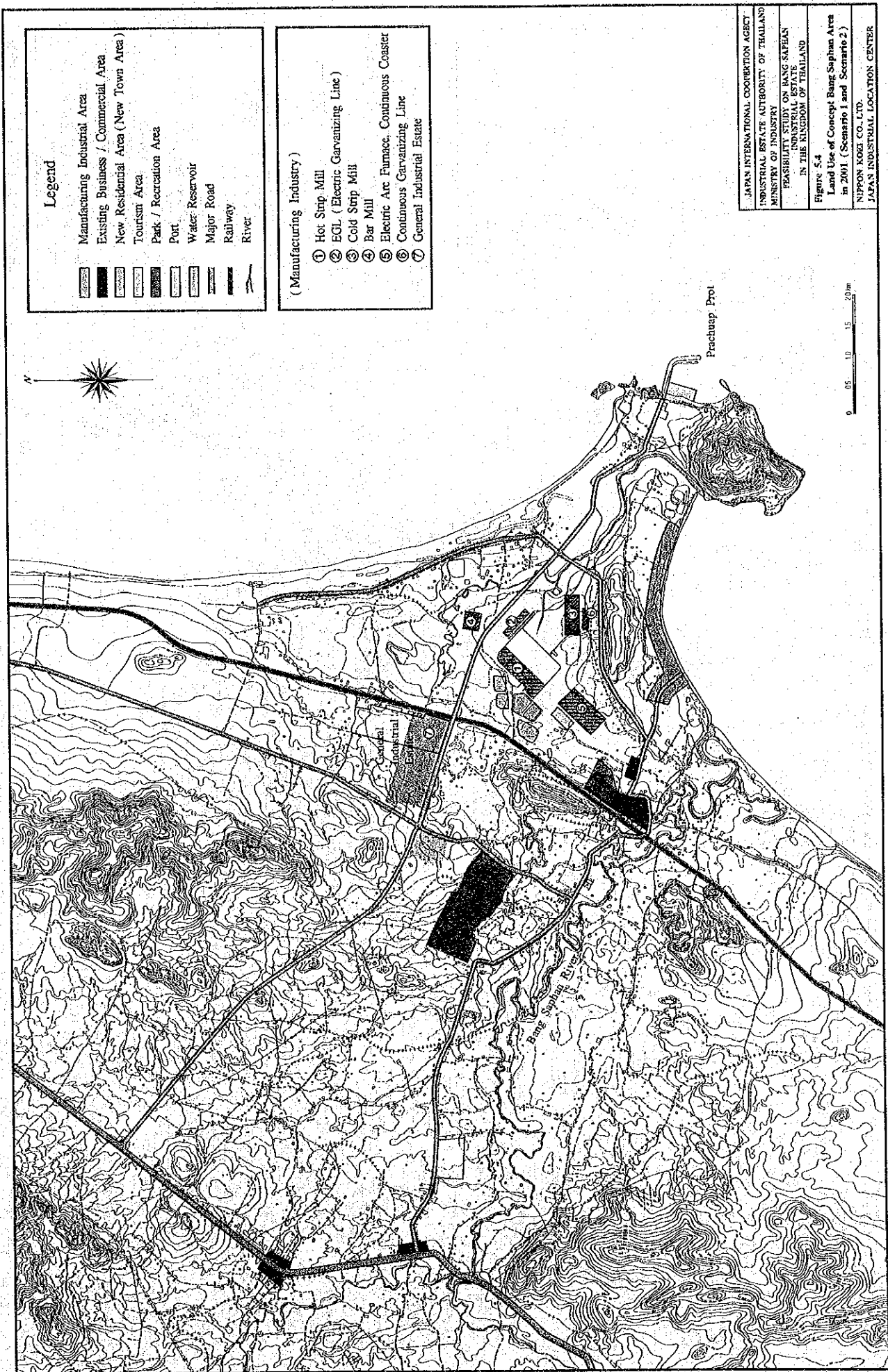
JAPAN INTERNATIONAL COOPERATION AGENCY
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 MINISTRY OF INDUSTRY OF BANG SAPHAN
 FERRILUMINERAL INDUSTRY
 IN THE KINGDOM OF THAILAND

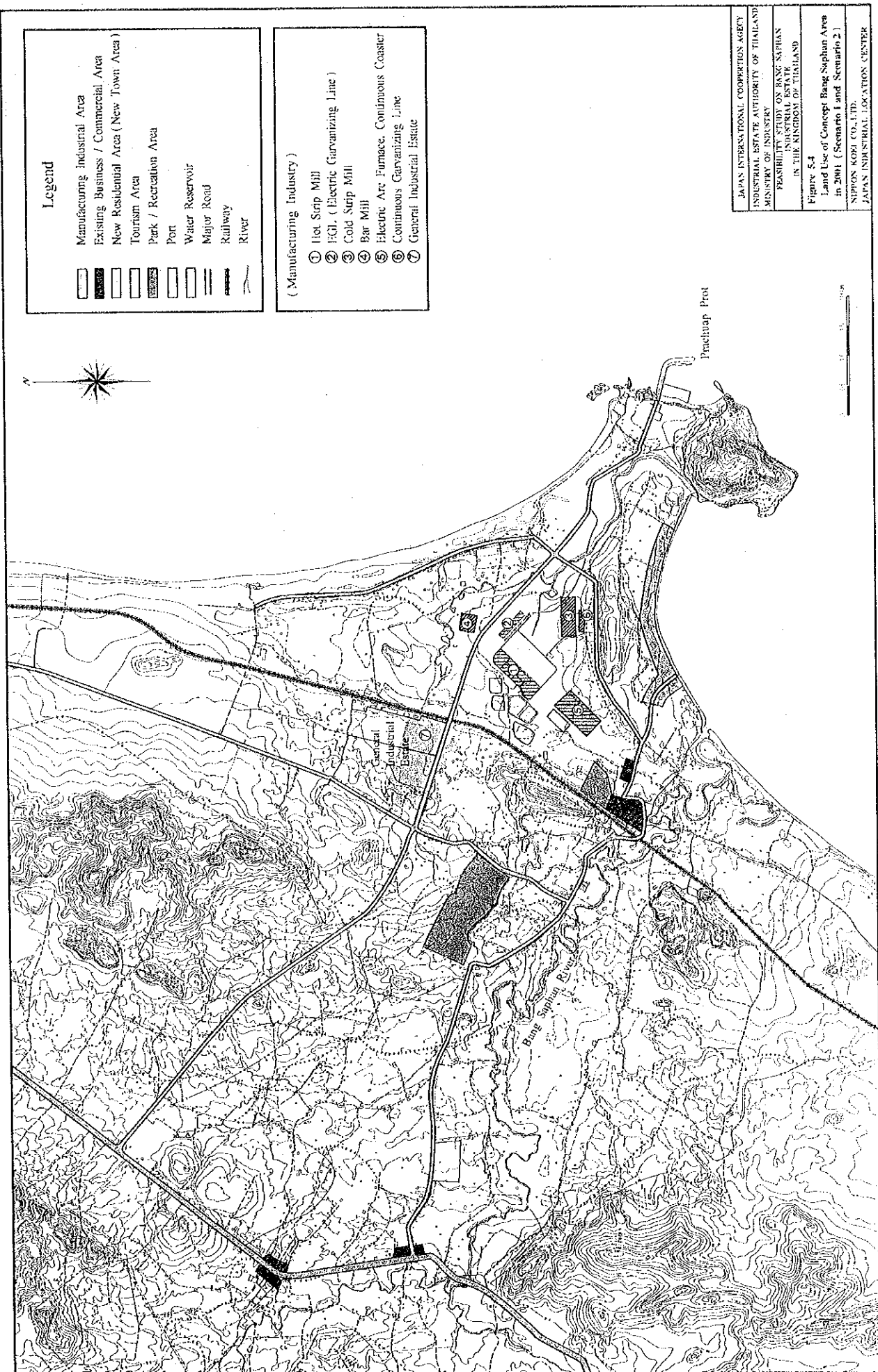
Figure 5.3
 Land Use Concept of Bang Saphan
 Area in 2011 (Scenario 2)
 NIPPON KOEI CO., LTD.
 JAPAN INDUSTRIAL LOCATION CENTER

- Legend**
- Manufacturing Industrial Area
 - Manufacturing Industrial Area (Future Expansion)
 - New Business / Commercial Area
 - Existing Business / Commercial Area
 - New Residential Area (New Town Area)
 - Commercial / Residential Area (High Density)
 - Residential Area (Low Density)
 - Social Facility Area
 - Tourism Area
 - Institute / Education Area
 - Park / Recreation Area
 - Major Road
 - Railroad
 - Sahaviriya Iron / Steel Factory
 - Power Plant (IPP)
 - Coal / Iron Ore Deposit / Ash Disposal Site
 - Green / Forest / Agriculture Area

- ① Hot Strip Mill
- ② EGI
- ③ Cold Strip Mill
- ④ Bar Mill
- ⑤ Direct Reduced Iron, Electric Arc Furnace & Continuous Coaster
- ⑥ Electric Arc Furnace, Thin Slab Process
- ⑦ Direct Reduced Iron
- ⑧ Continuous Galvanizing Line
- ⑨ Direct Reduced Iron, Electric Arc Furnace & Continuous Coaster
- ⑩ Section Mill
- ⑪ Wire Rod Mill
- ⑫ Ash Disposal Site & Solid Waste Disposal Facility
- ⑬ Power Plant (IPP)







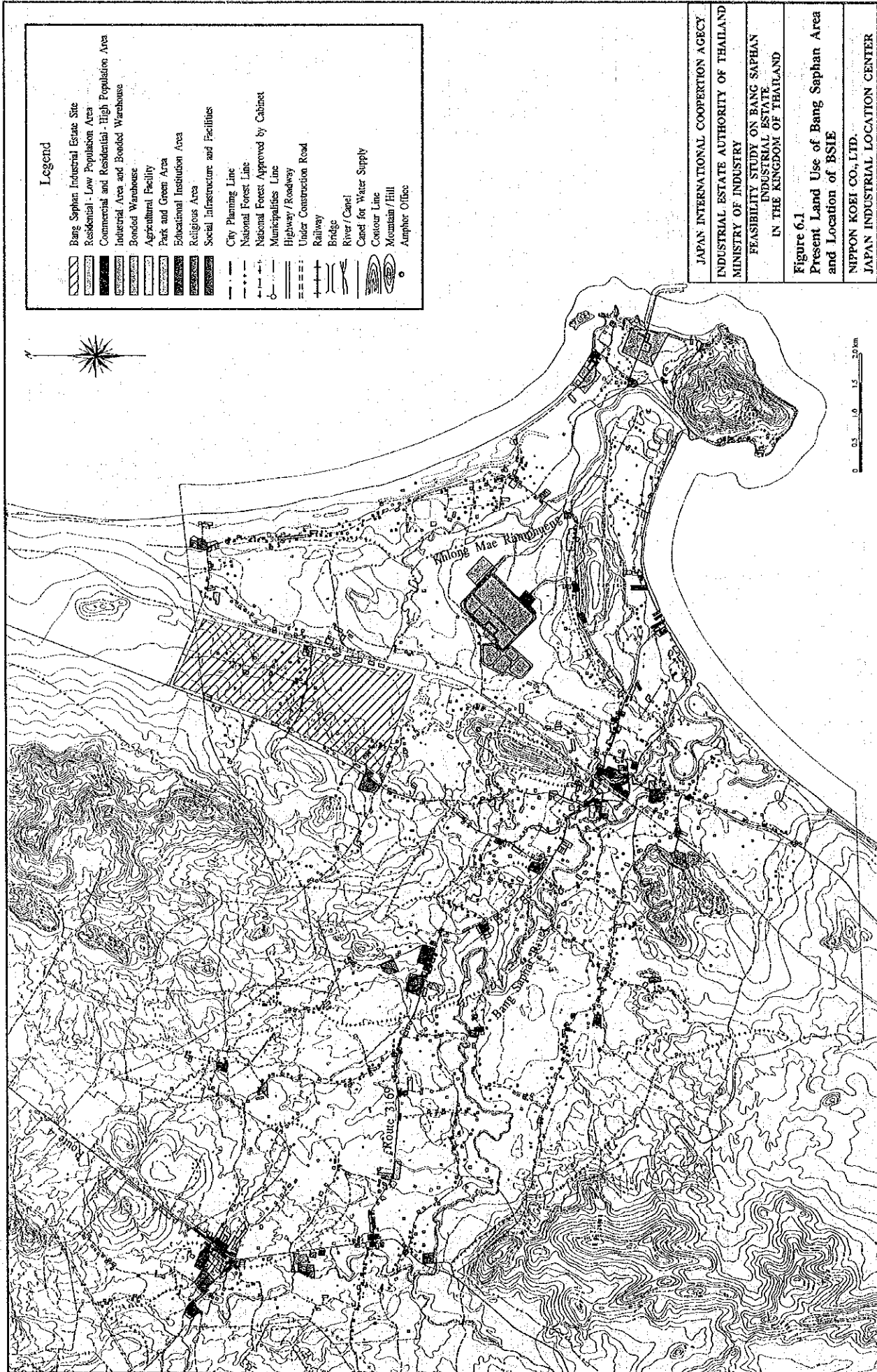
Legend

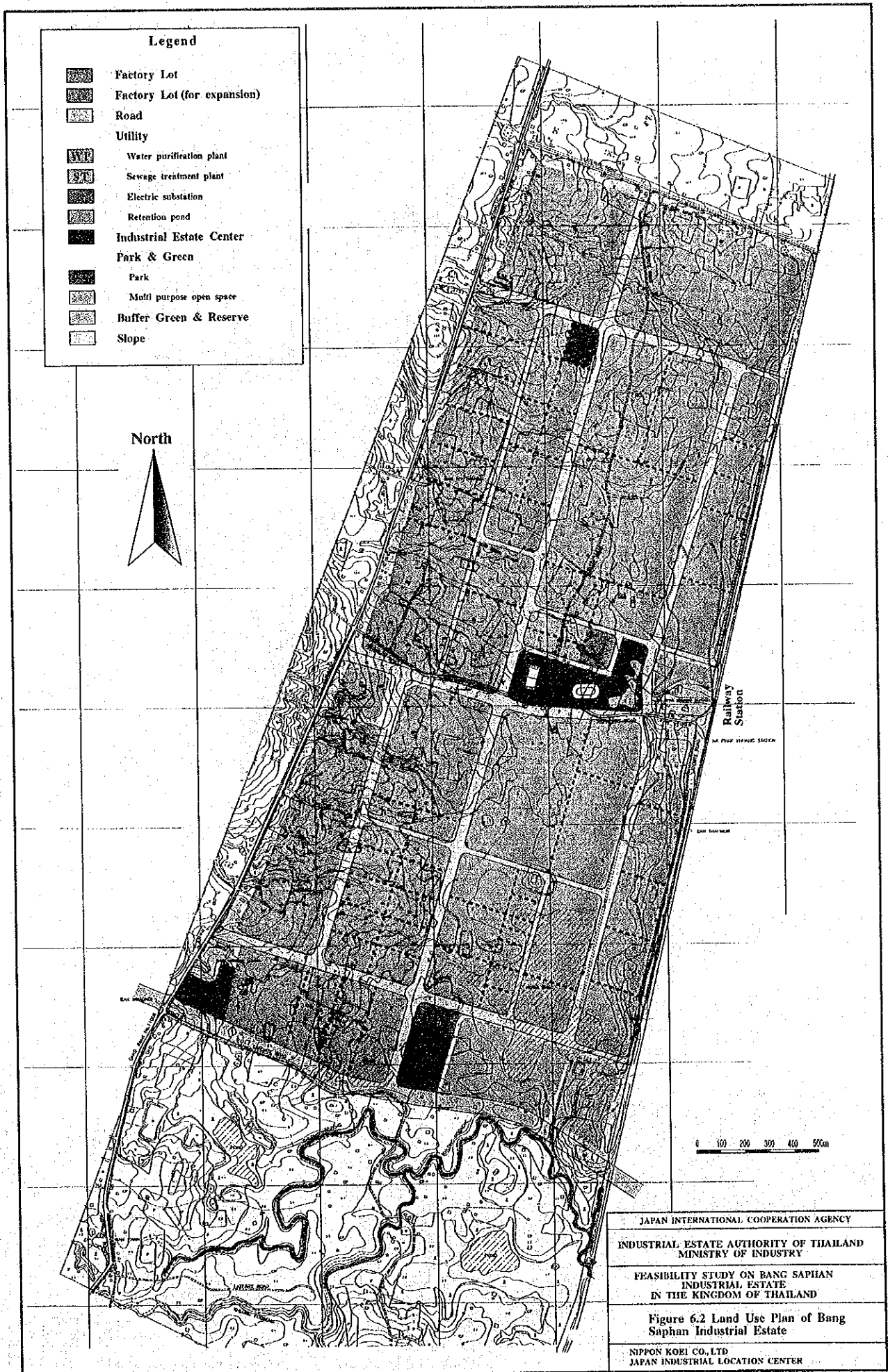
- Manufacturing Industrial Area
- Existing Business / Commercial Area
- New Residential Area (New Town Area)
- Tourism Area
- Park / Recreation Area
- Port
- Water Reservoir
- Major Road
- Railway
- River

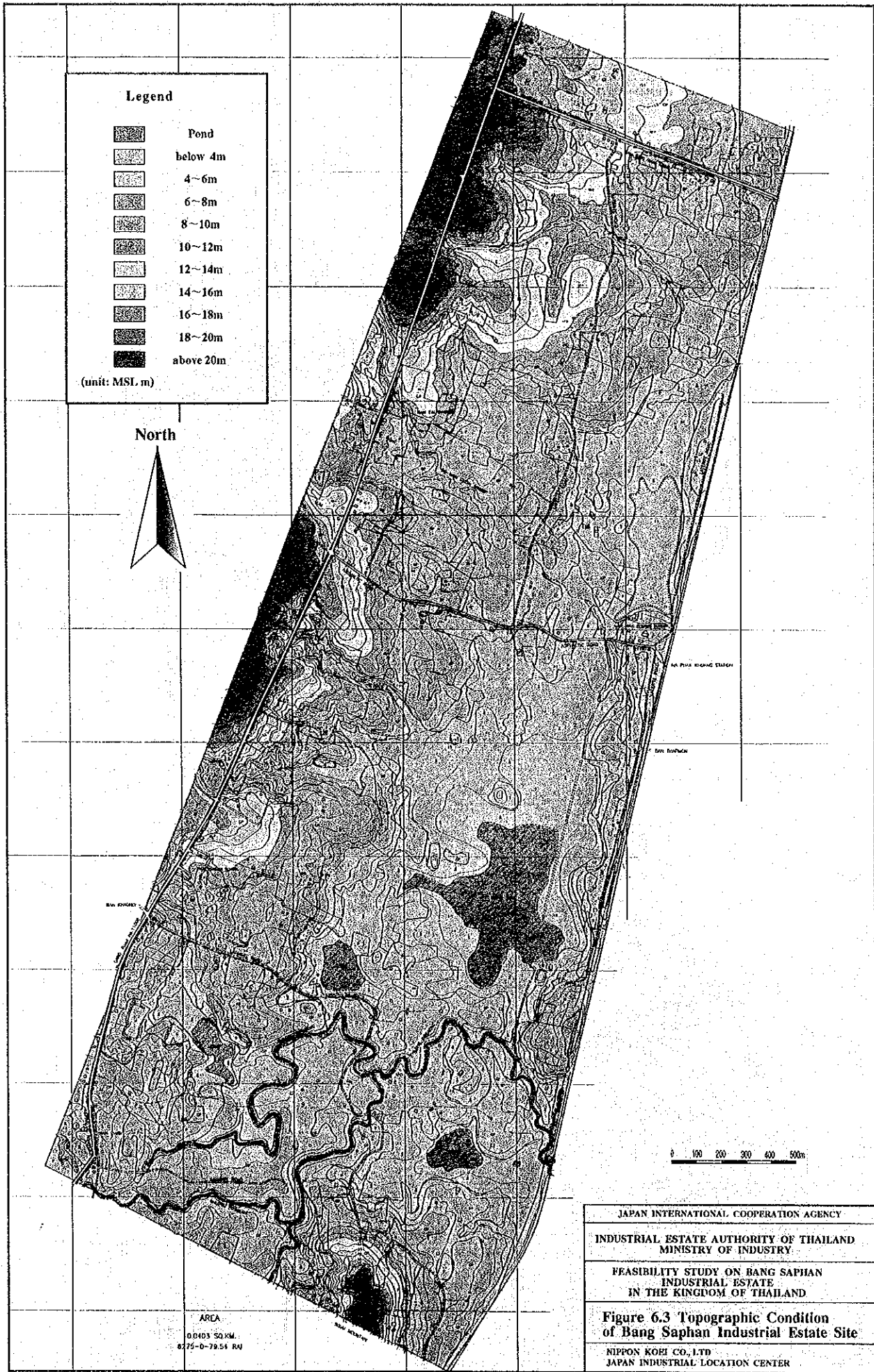
(Manufacturing Industry)

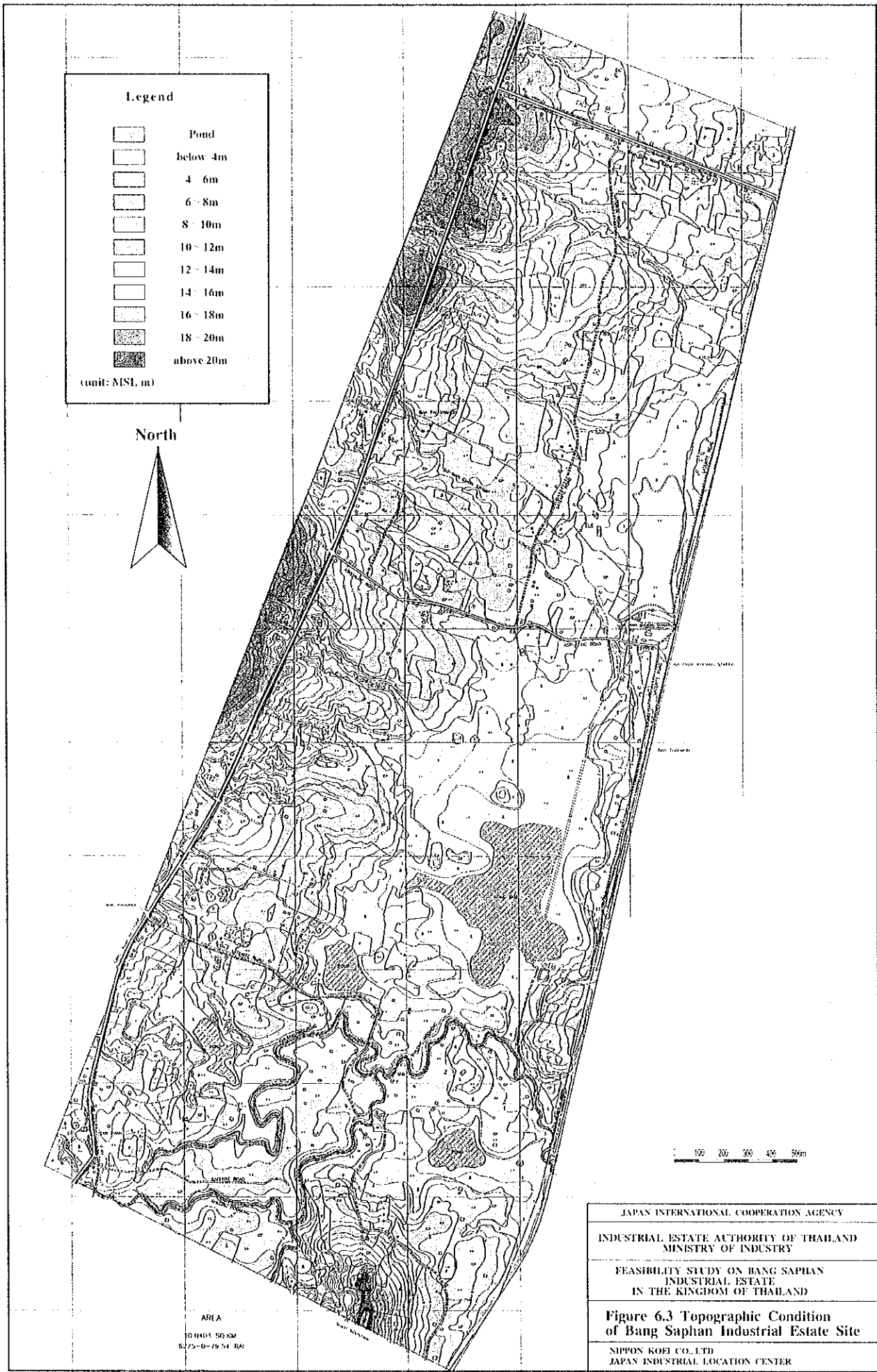
- ① Hot Strip Mill
- ② EGI. (Electric Galvanizing Line)
- ③ Cold Strip Mill
- ④ Bar Mill
- ⑤ Electric Arc Furnace, Continuous Coaster
- ⑥ Continuous Galvanizing Line
- ⑦ General Industrial Estate

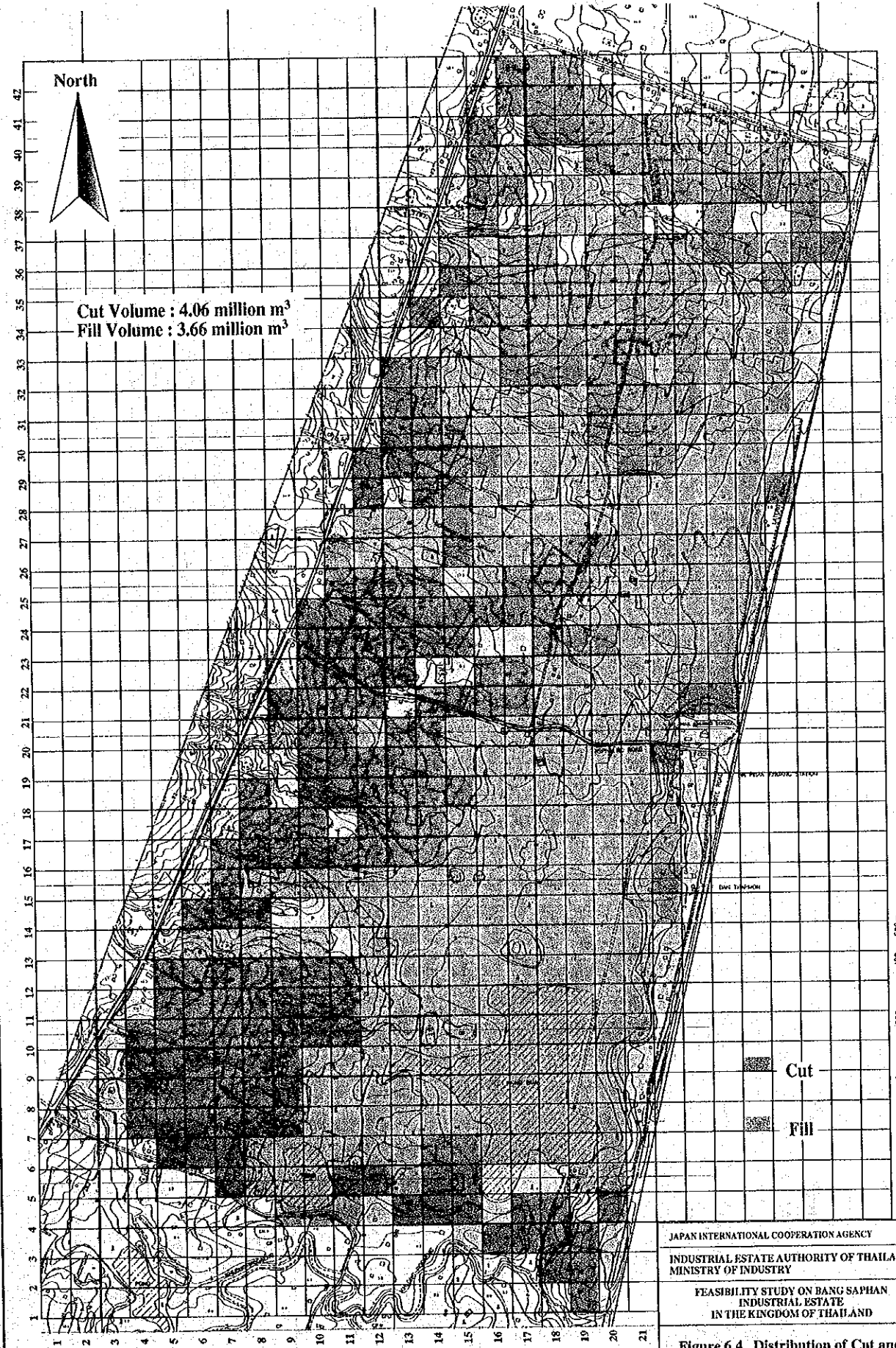
JAPAN INTERNATIONAL COOPERATION AGENCY
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 MINISTRY OF INDUSTRY
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 INDUSTRIAL ESTATE
 IN THE KINGDOM OF THAILAND
 Figure 5.4
 Land Use of Concept Bang Saphan Area
 in 2001 (Scenario 1 and Scenario 2)
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Cut Volume : 4.06 million m³
 Fill Volume : 3.66 million m³

Cut
 Fill

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Figure 6.4 Distribution of Cut and Filling Area
 NIPPON KOEI CO., LTD
 JAPAN INDUSTRIAL LOCATION CENTER



Cut Volume : 4.06 million m³
 Fill Volume : 3.66 million m³

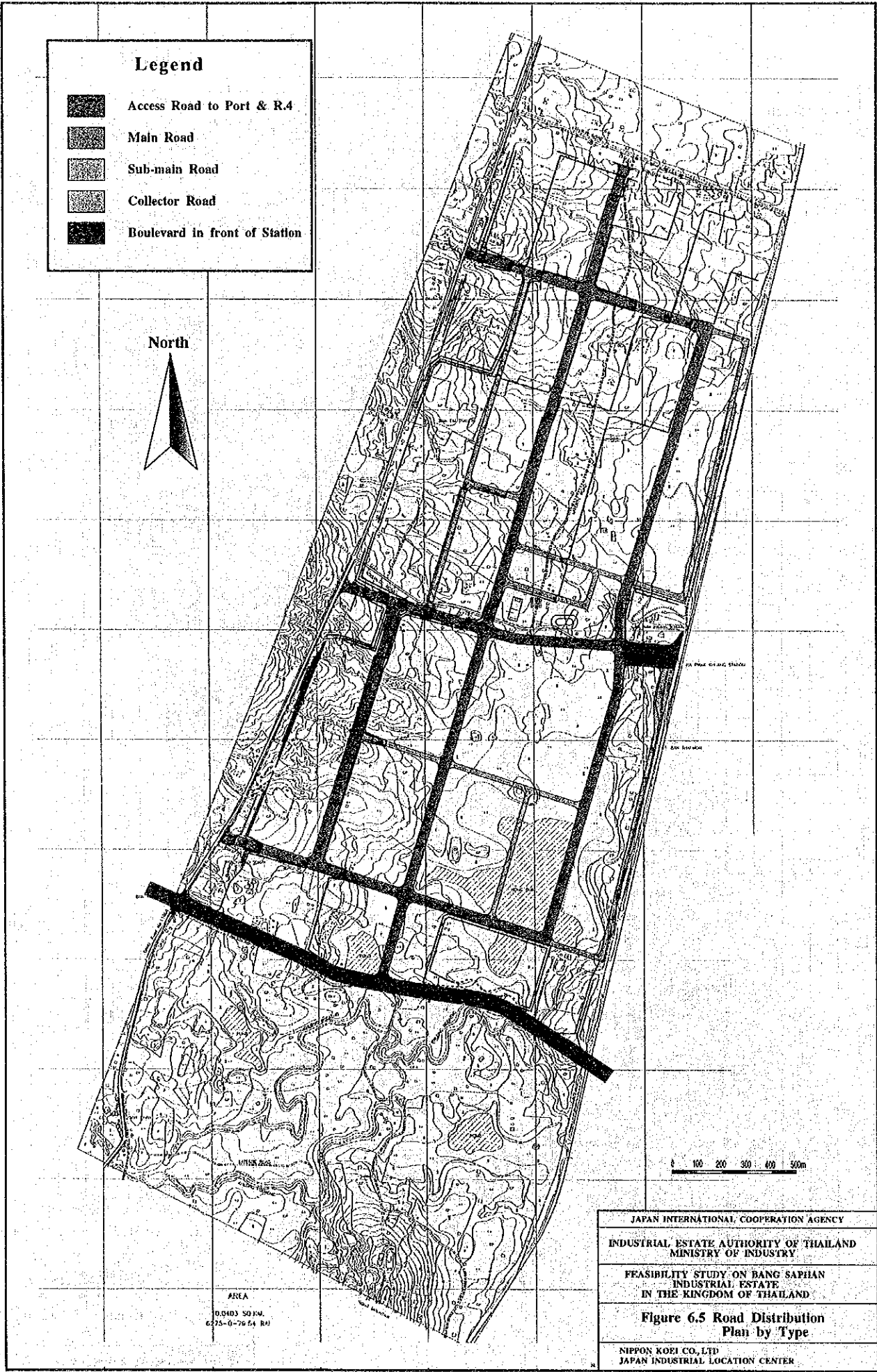
Cut
 Fill






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Figure 6.4 Distribution of Cut and Filling Area

NIPPON KOEI CO., LTD
 JAPAN INDUSTRIAL LOCATION CENTER



- Legend**
-  Access Road to Port & R.4
 -  Main Road
 -  Sub-main Road
 -  Collector Road
 -  Boulevard in front of Station








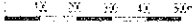
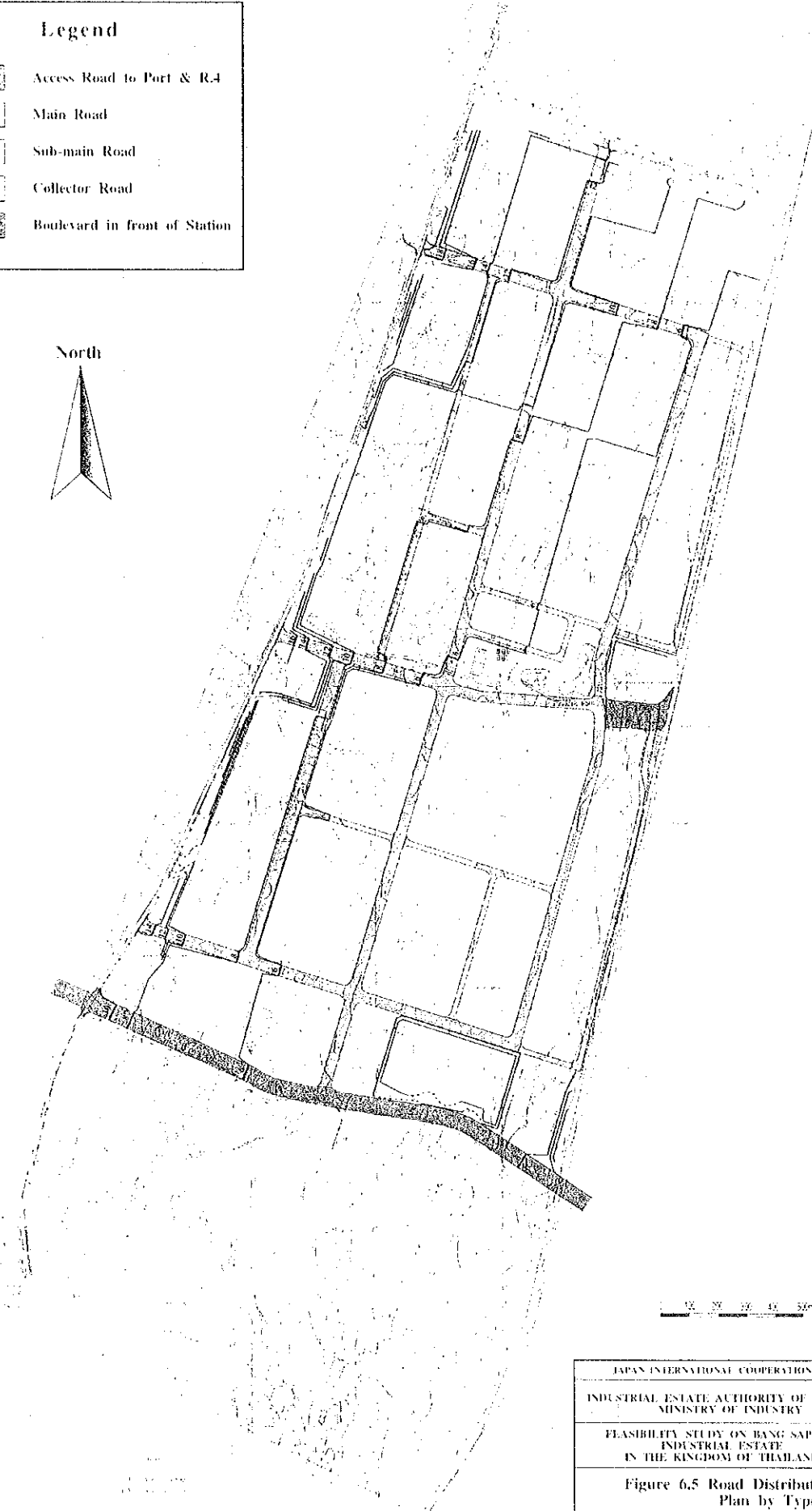
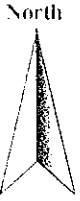
0 100 200 300 400 500m

AREA
0.0403 SQ KM
625-6-7614 RA

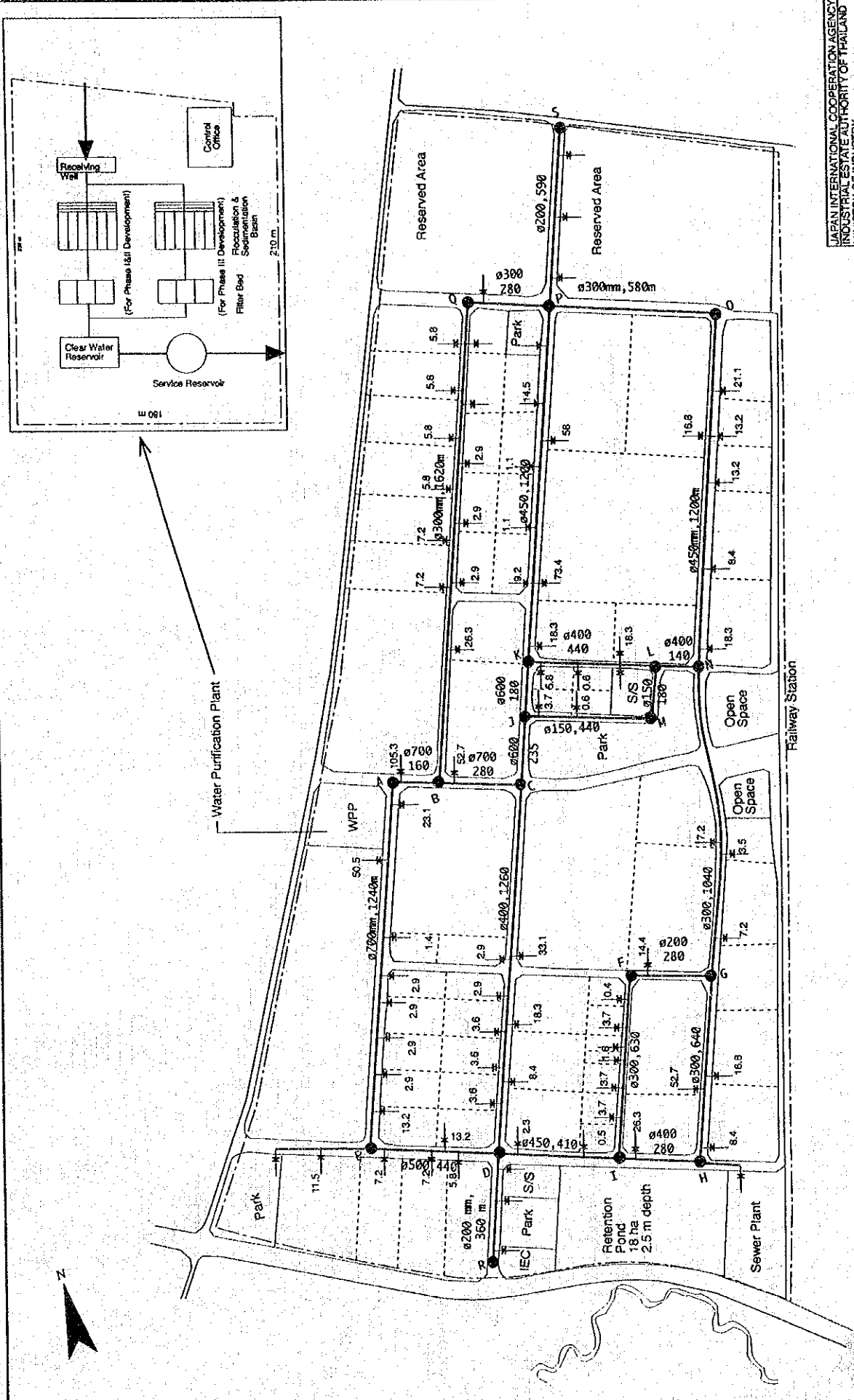
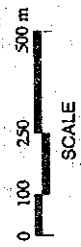
JAPAN INTERNATIONAL COOPERATION AGENCY
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 IN THE KINGDOM OF THAILAND
**Figure 6.5 Road Distribution
 Plan by Type**
 NIPPON KOEI CO., LTD
 JAPAN INDUSTRIAL LOCATION CENTER

Legend

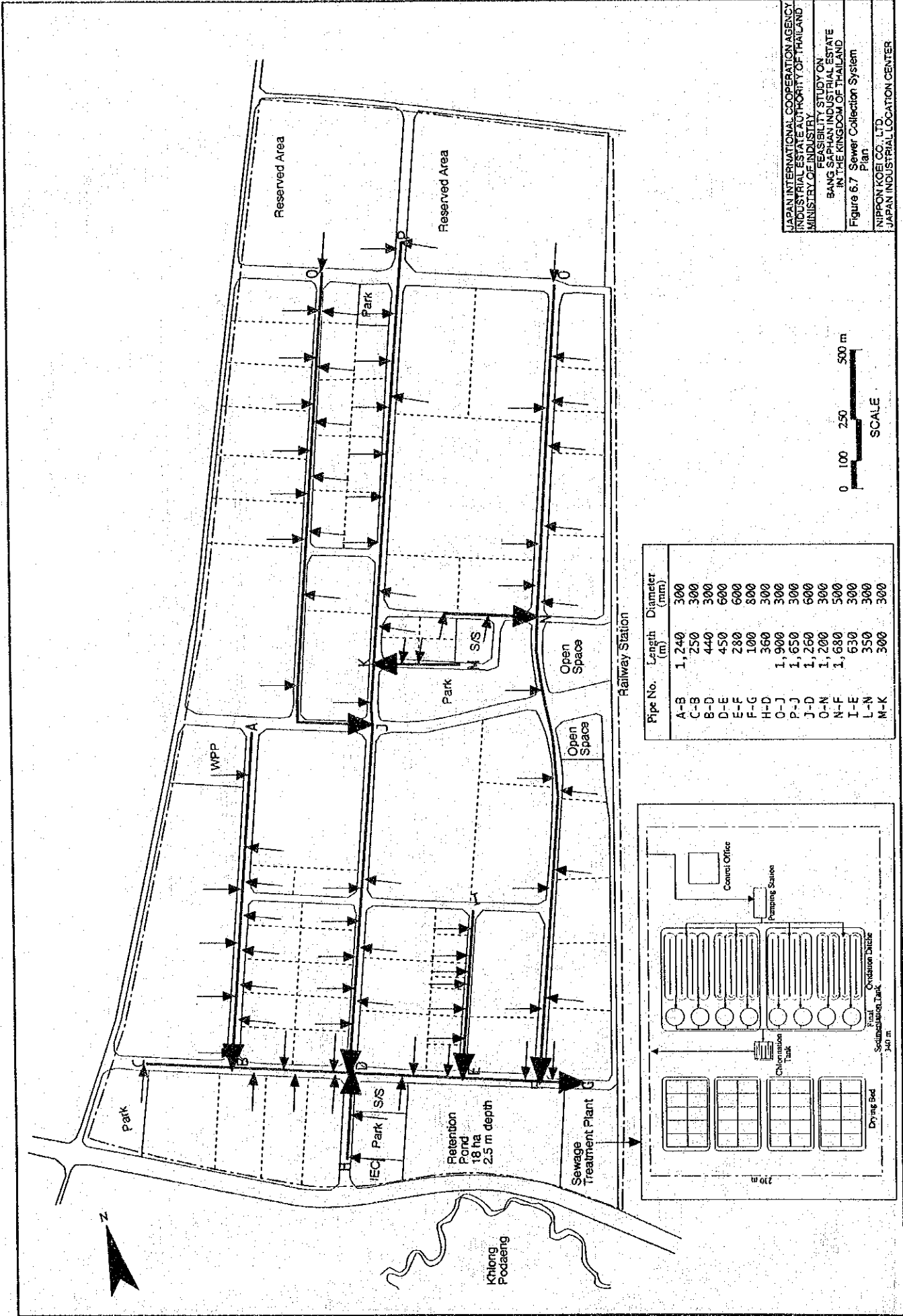
-  Access Road to Port & R.R.
-  Main Road
-  Sub-main Road
-  Collector Road
-  Boulevard in front of Station



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 IN THE KINGDOM OF THAILAND
**Figure 6.5 Road Distribution
 Plan by Type**
 NIPPON KOEI CO., LTD.
 JAPAN INDUSTRIAL LOCATION CENTER



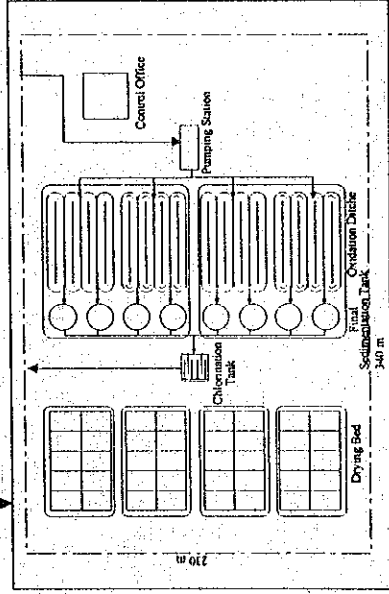
Water Purification Plant

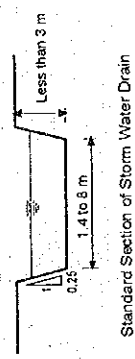
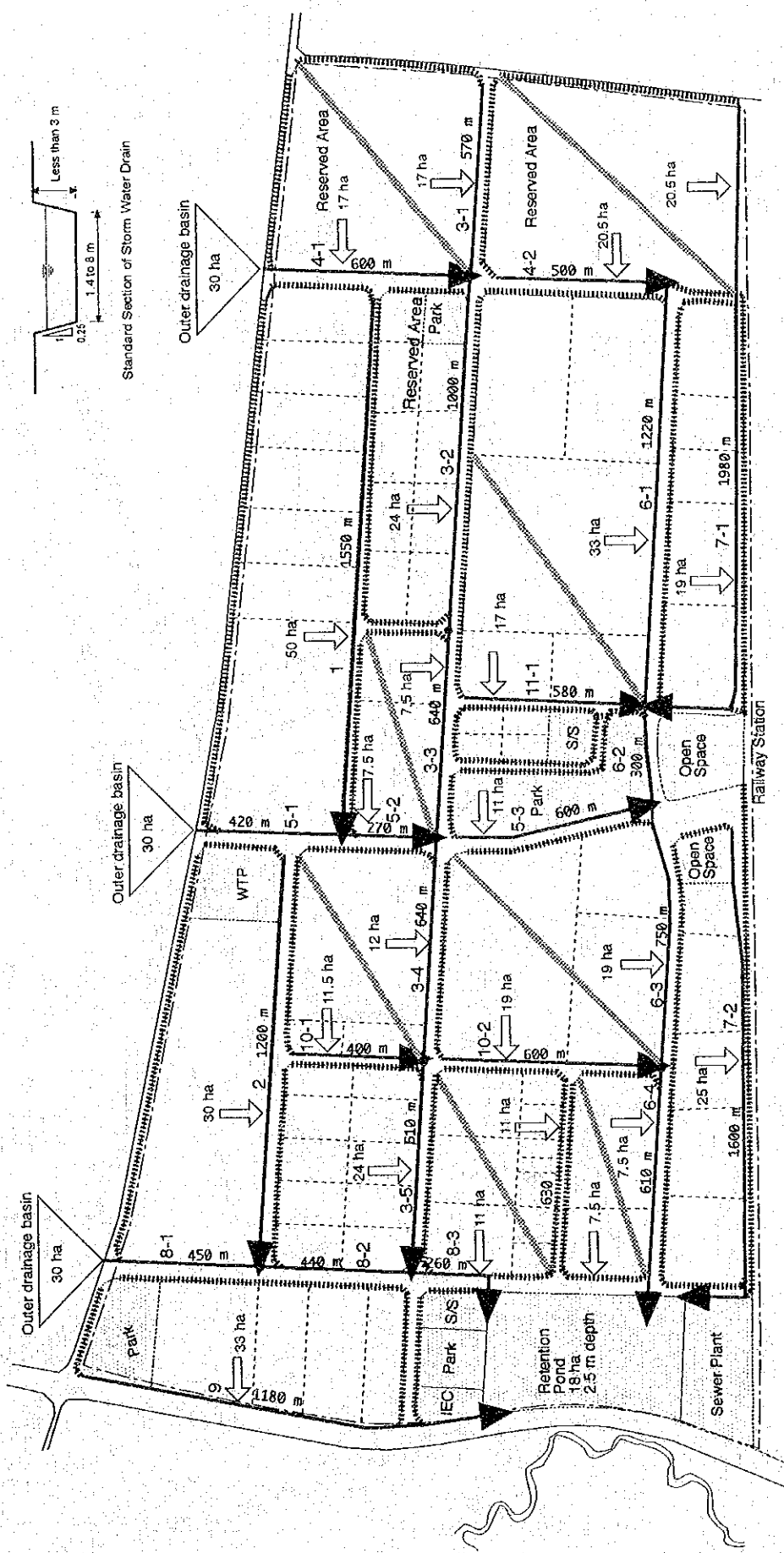


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 IN THE KINGDOM OF THAILAND
 Figure 6.7 Sewer Collection System
 Plan
 NIPPON KOBE CO., LTD.
 JAPAN INDUSTRIAL LOCATION CENTER

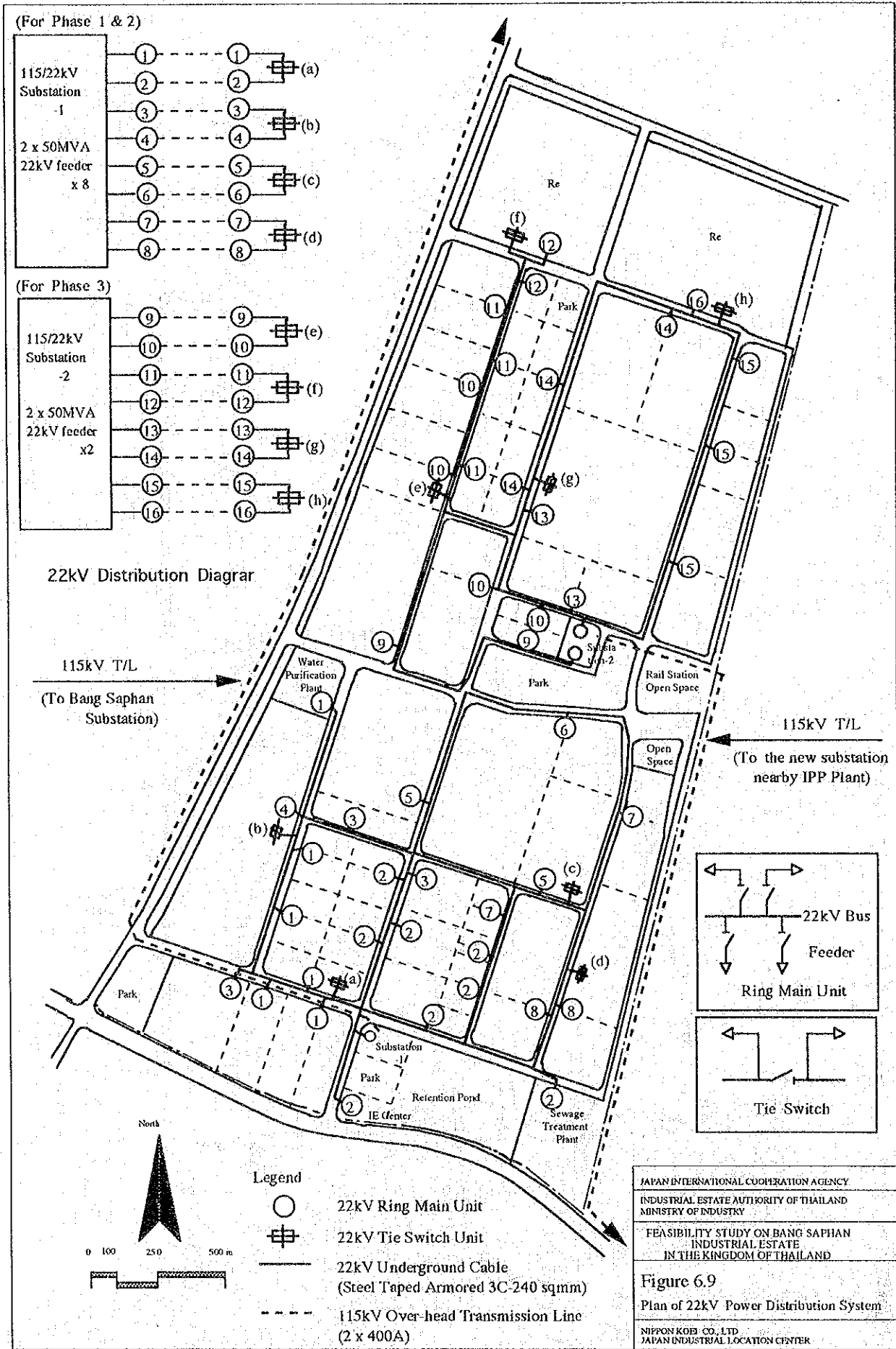


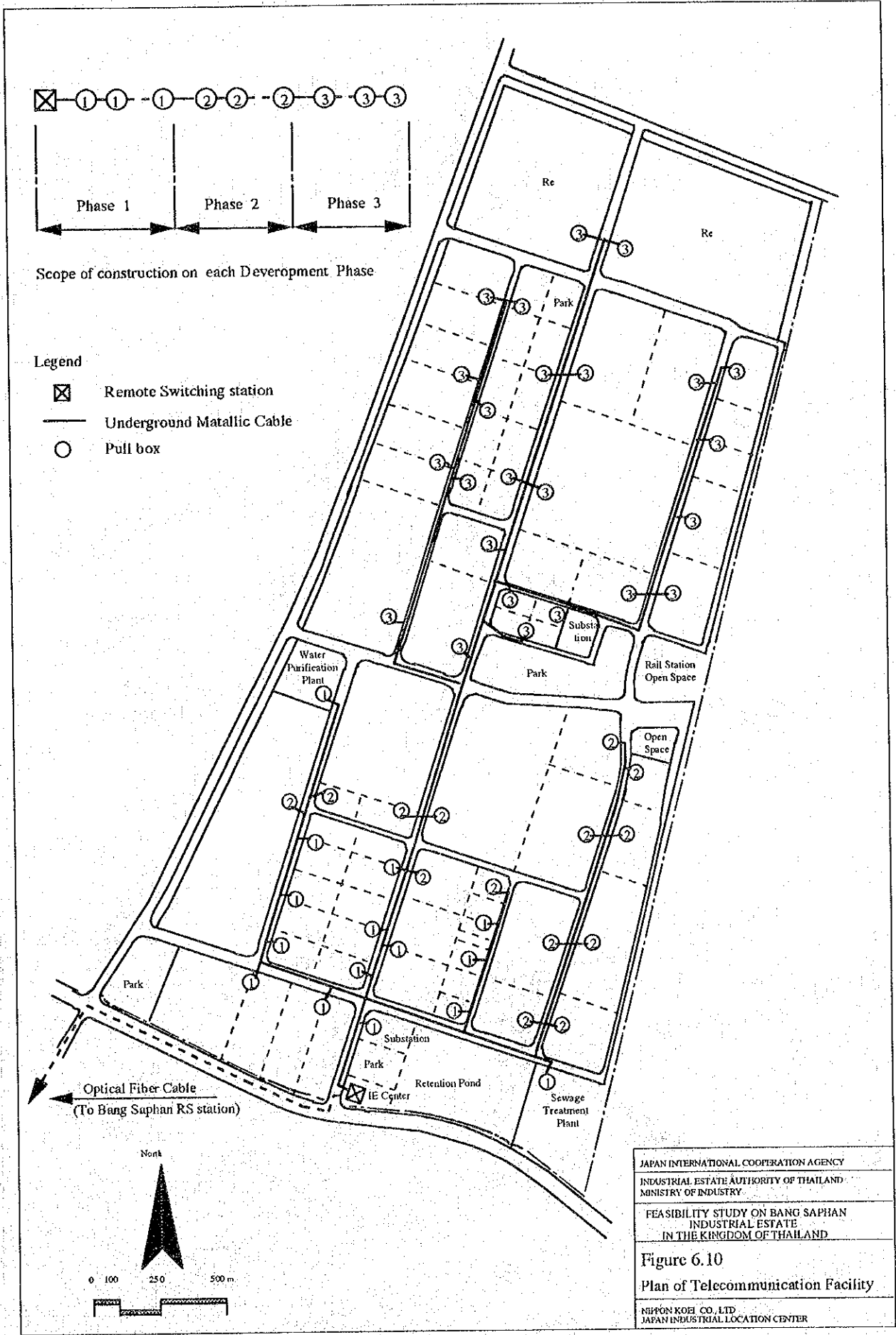
Pipe No.	Length (m)	Diameter (mm)
A-B	1,240	300
C-B	250	300
B-D	440	300
D-E	450	600
E-F	280	600
F-G	100	800
H-D	360	300
O-J	1,900	300
P-J	1,650	300
J-D	1,260	600
O-N	1,200	300
N-F	1,680	500
I-E	630	300
L-N	350	300
M-K	300	300

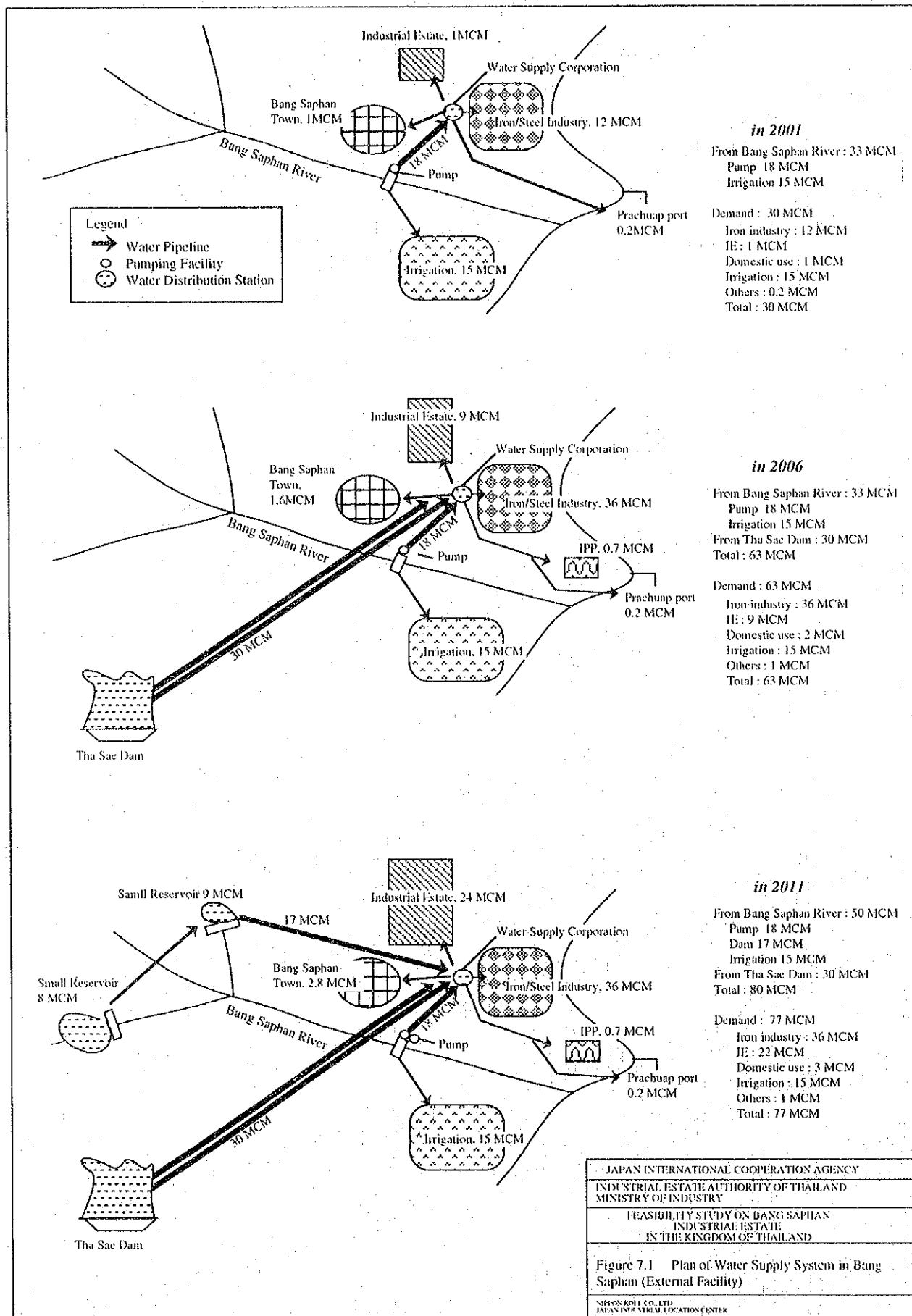


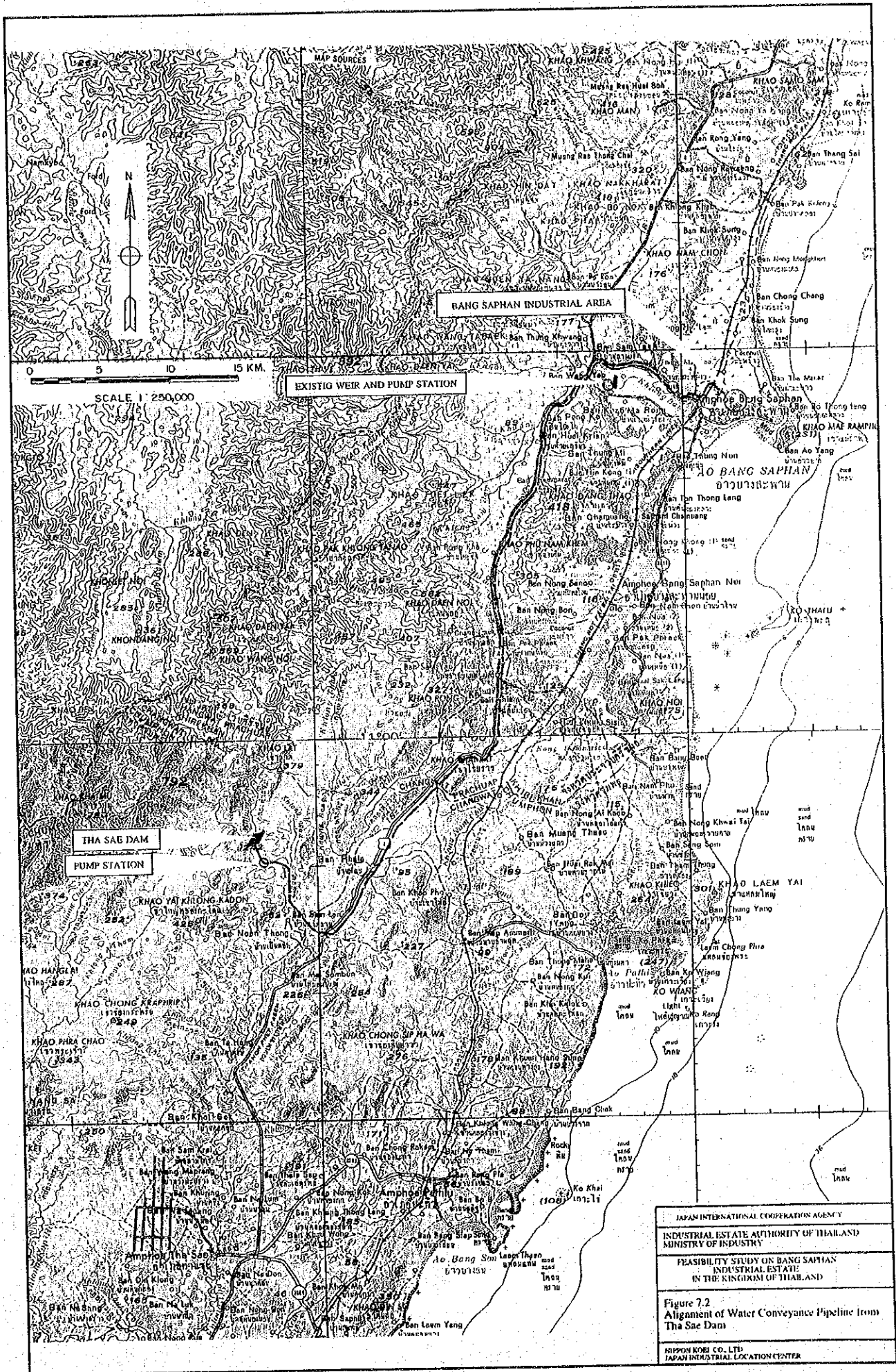


- LEGEND
- Road Side Ditch
 - Storm Water Drainage Canal and Flow Direction
 - Direction of Inland Rain Water
 - Boundary of Drainage Area

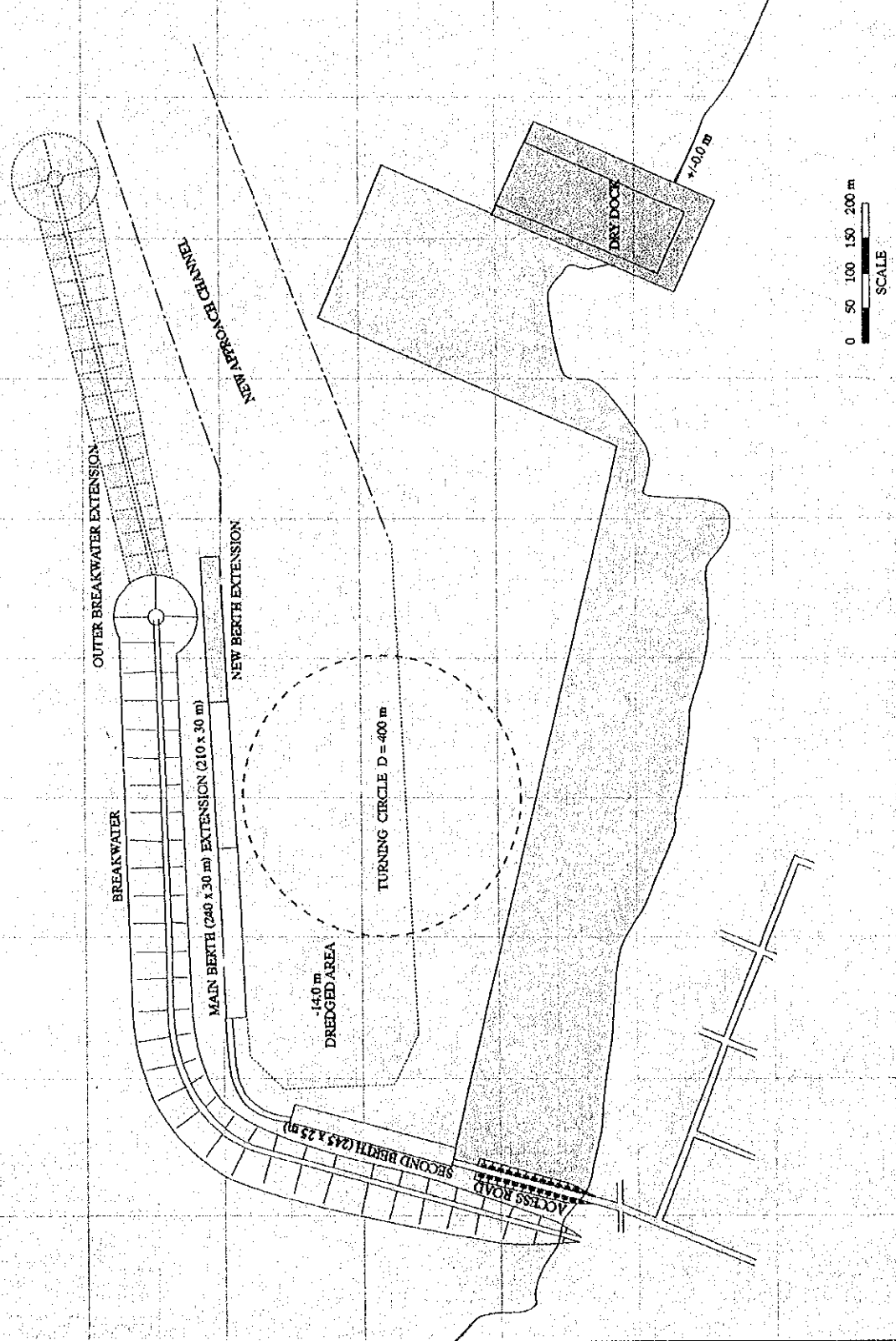




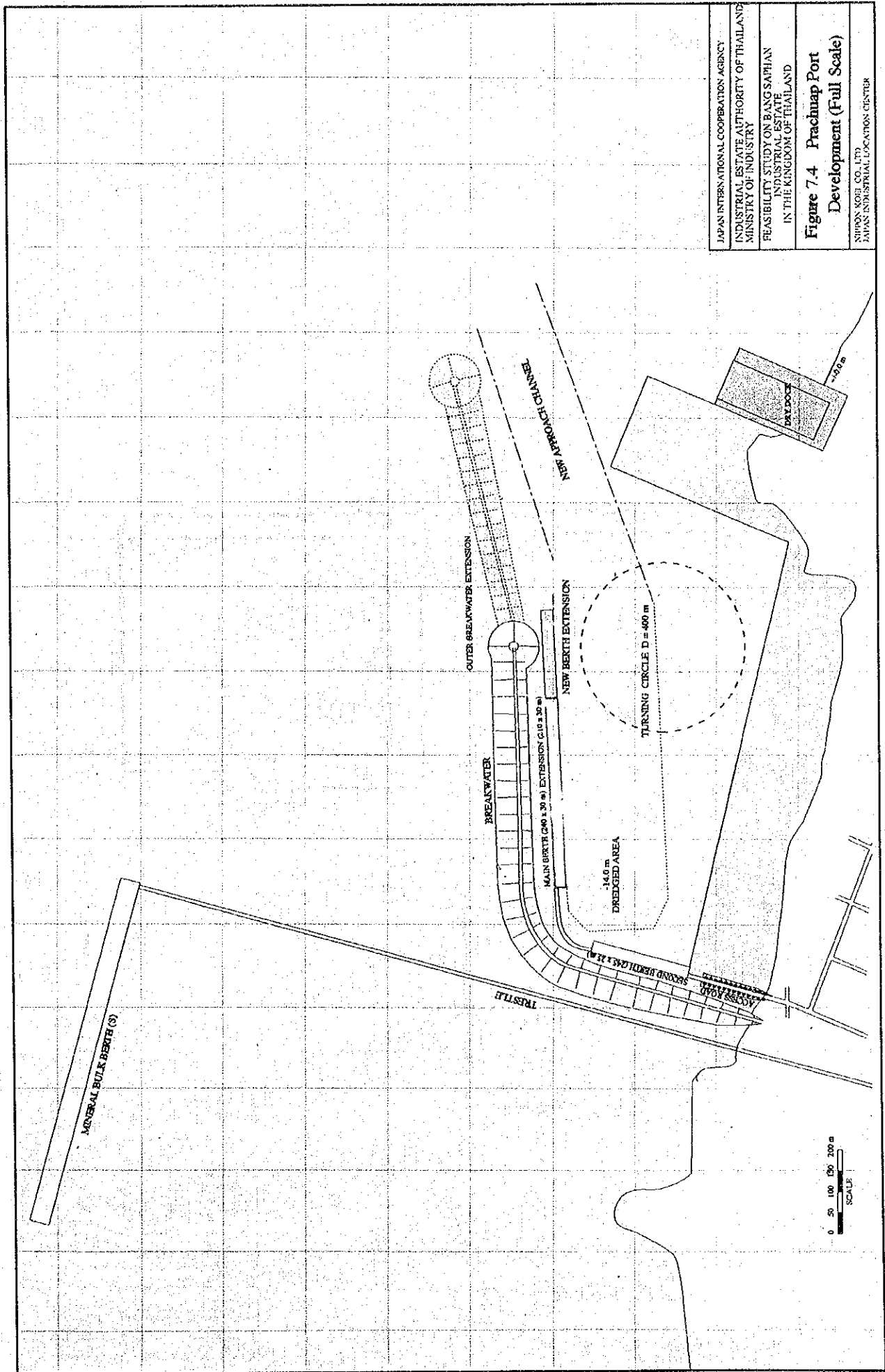




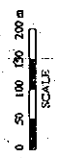
PRACHUAP PORT DEVELOPMENT ALTERNATIVE PLAN C



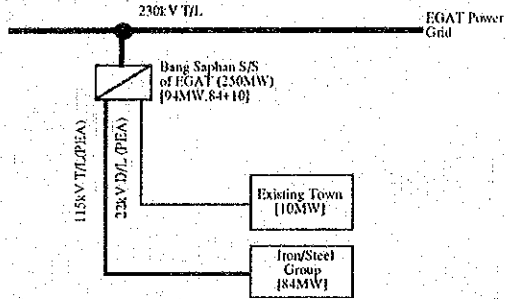
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Figure 7.3 Prachuap Port
 Development Alternative Plan C
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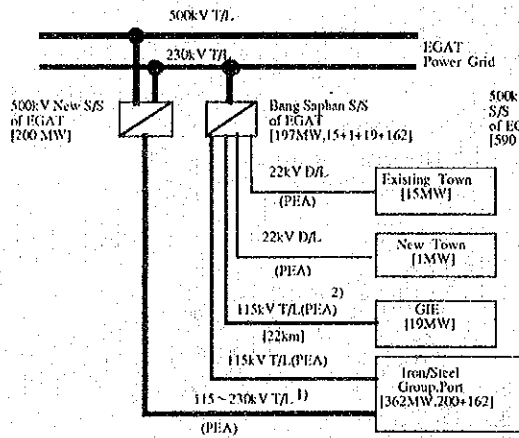
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**Figure 7.4 Prachuap Port
 Development (Full Scale)**
 SHIMIZU & CO., LTD.
 JAPAN INDUSTRIAL LOCATION CENTER



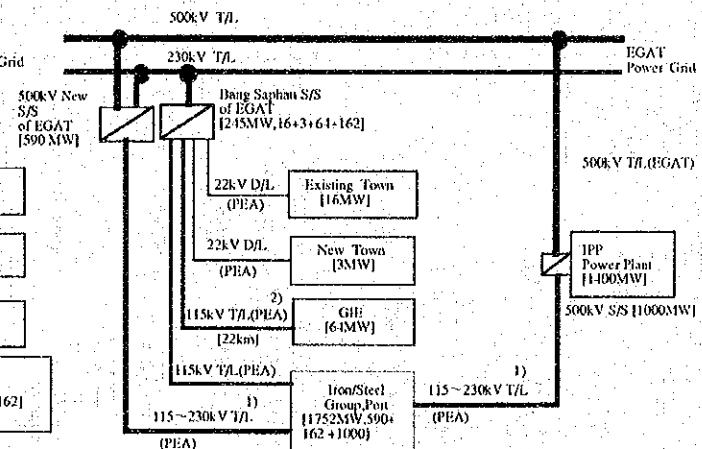
in 1995



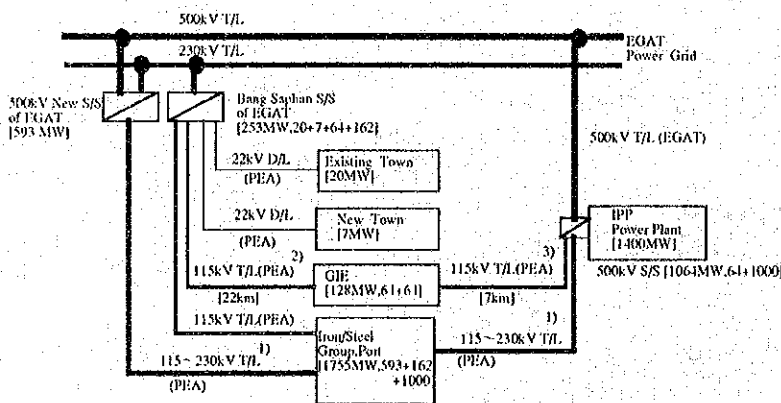
End of 2001



in 2006



in 2011



Remarks 1) : Transmission voltage will depend on electricity demand of each consumer.

2) : To be constructed by the end of 2000.

3) : To be constructed by the end of 2007.

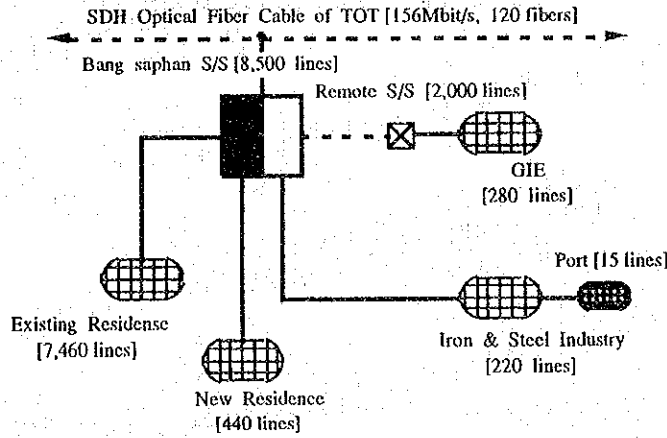
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IN THE KINGDOM OF THAILAND

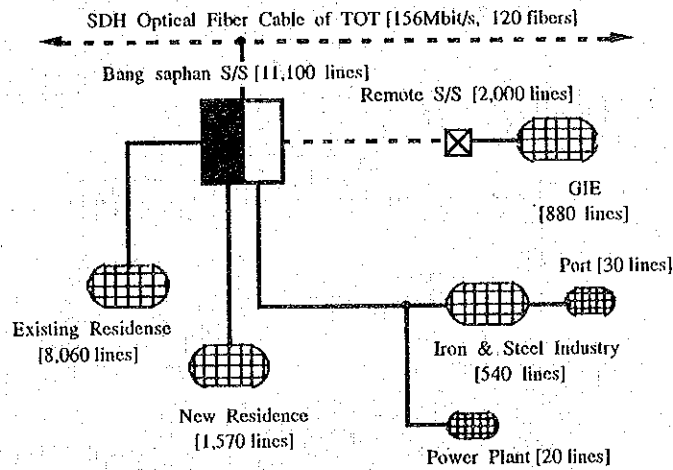
Figure 7.5
Schematic Diagram of Power
Supply System in 1995, 2001, 2006 & 2011

NIPPON KOEI CO., LTD
JAPAN INDUSTRIAL LOCATION CENTER

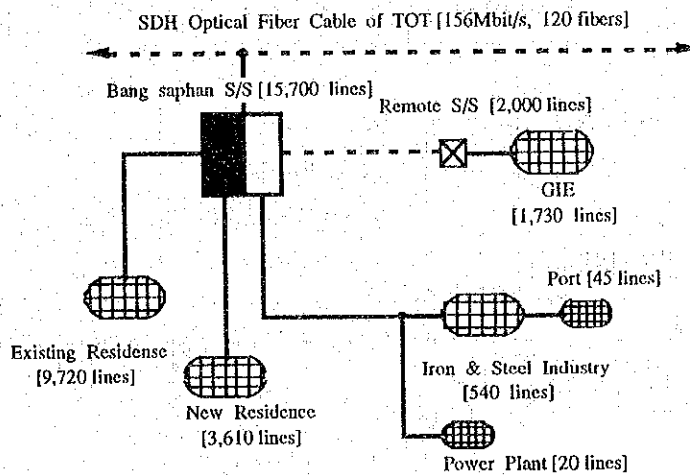
in 2001



in 2006



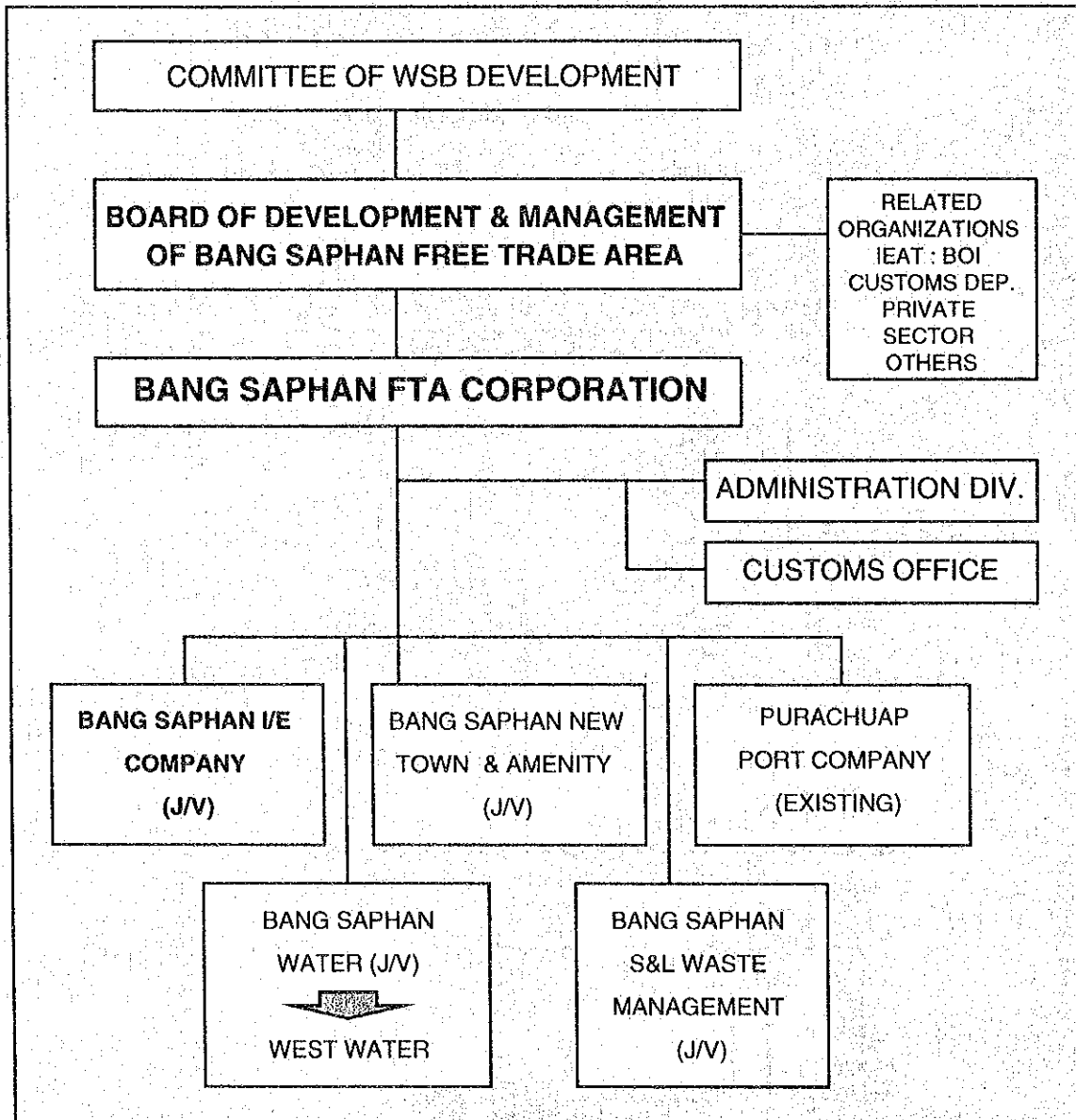
in 2011



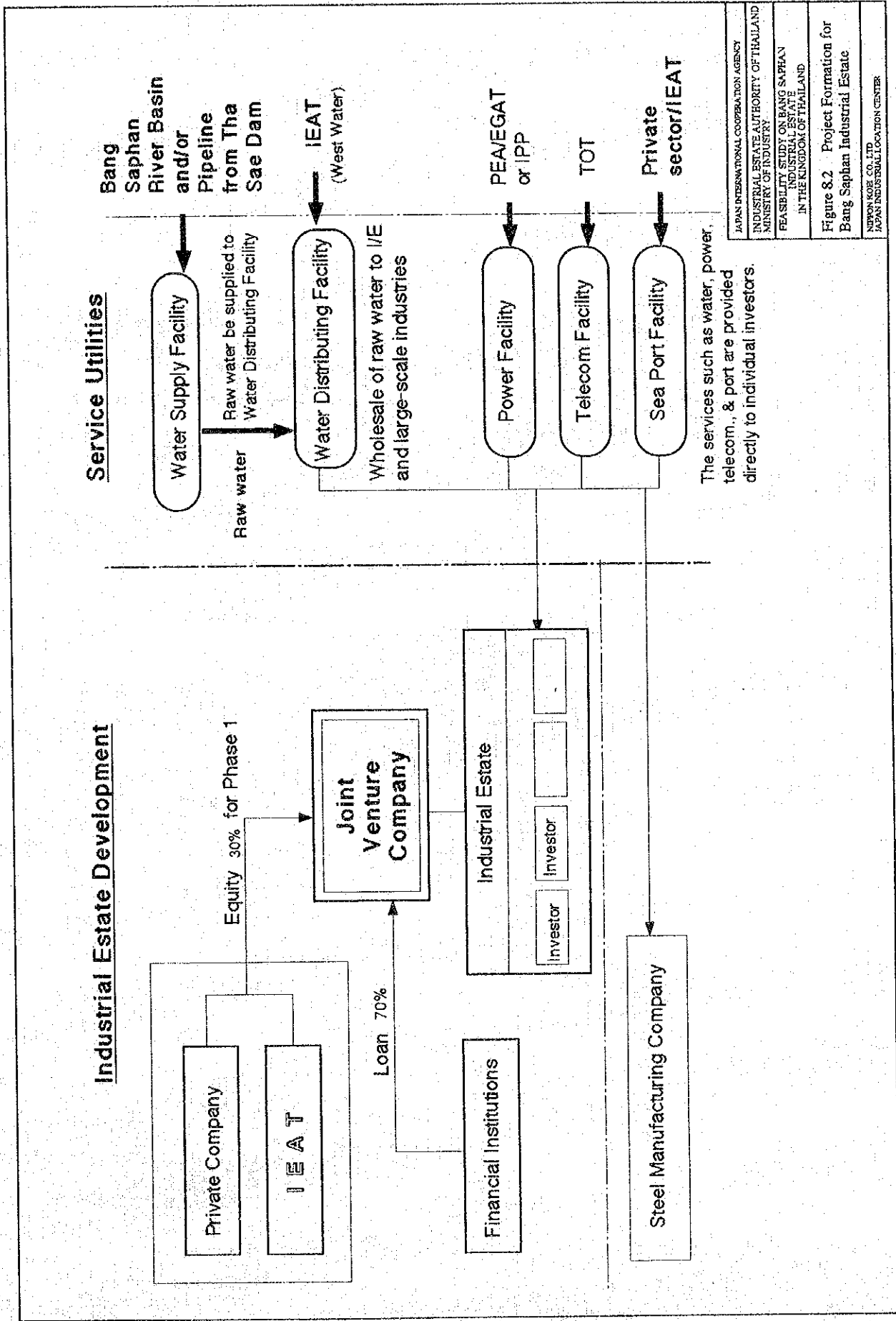
Legend

- Switching station to be expanded
- ⊠ Remote Switching station to be constructed
- Distribution line to be constructed and/or to be expanded
- - - Optical fiber cable
- ⊞ Distribution grid line to be constructed and/or to be expanded

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Figure 7.6 Schematic Diagram of Telecommunication System in 2001, 2006 and 2011
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Figure 8.1 Integrated Development Organization
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Service Utilities

Industrial Estate Development

The services such as water, power, telecom., & port are provided directly to individual investors.

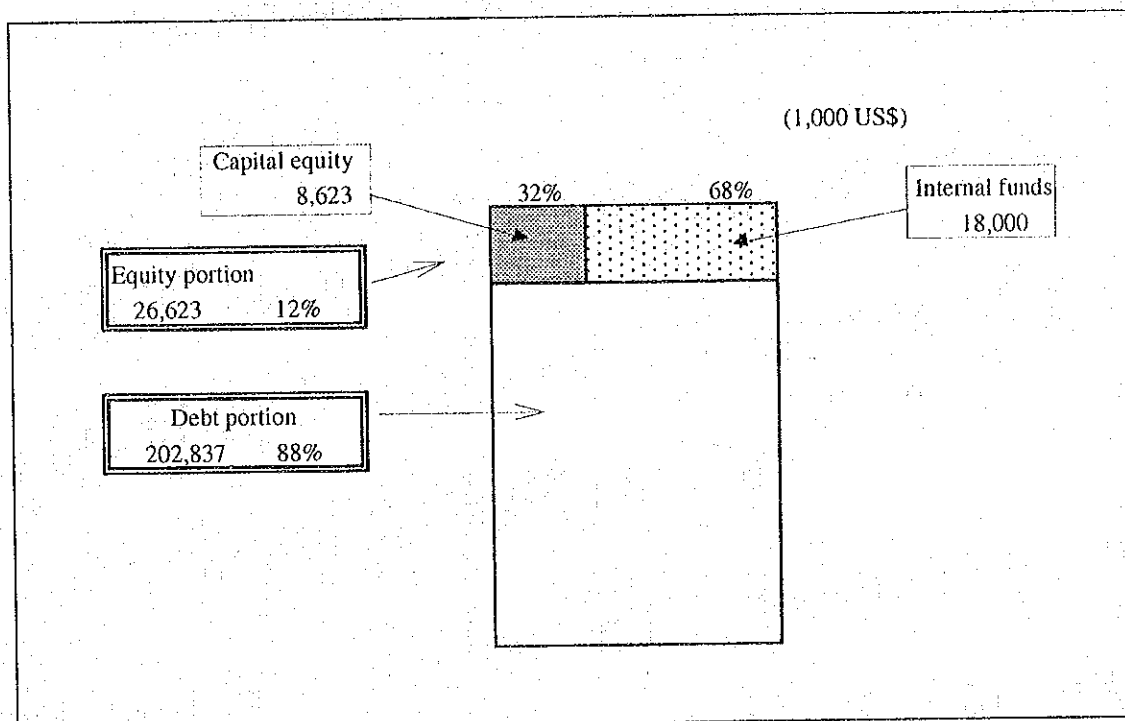
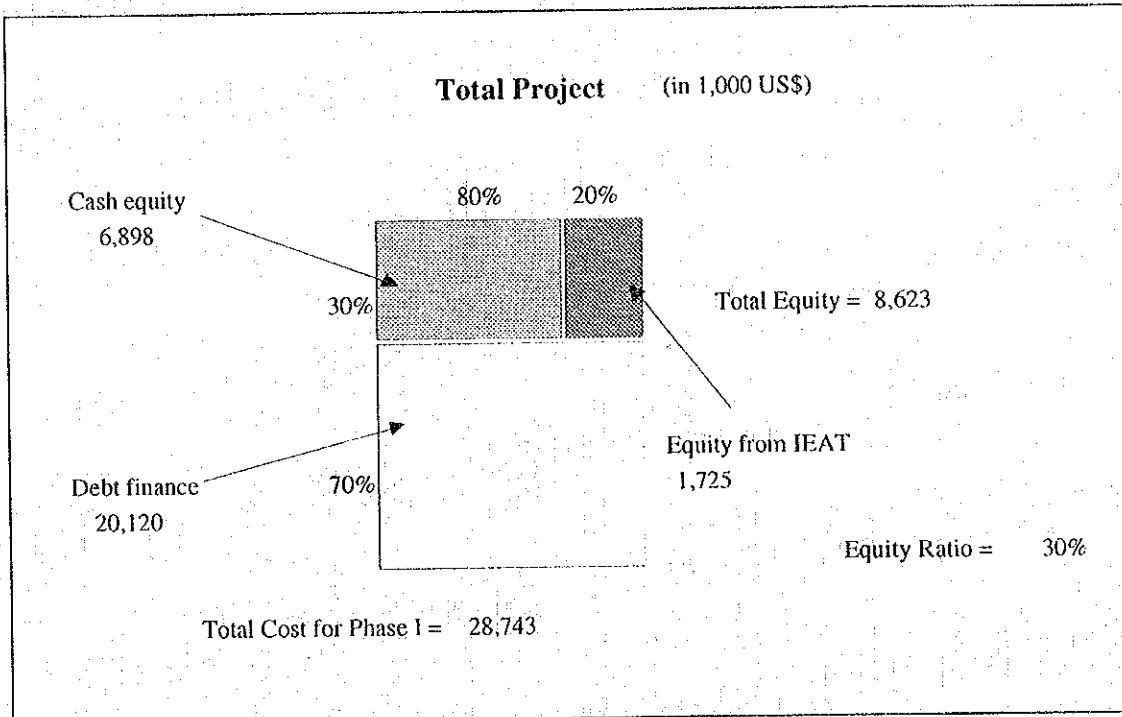
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Figure 8.2 Project Formation for Bang Saphan Industrial Estate
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		1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
Industrial Estate	Phase 1		DD	Land Grading	Other													
	Phase 2				DD	Land Grading	Other											
	Phase 3							DD	Land Grading	Other								
External Infrastructure	1) Water Supply Facility (1) Pipeline & pump for Phase 1 (Bang Saphan river) (2) Tha Sai dam pipeline (3) Reservoirs & pipeline (Bang Saphan river)	DD	Construction															
		IS/EIA	DD	Construction														
		IS/EIA	DD	Construction														
	2) Road (1) Access Road (2) Interchange (3) Community roads	DD/DD	Construction/phase 1								DD	Construction/phase 2						
											DD	Construction						
		R. 3169	Other community road	Other community road														
	3) Port (1) Phase 1 (general cargo berth) (2) Phase 2 (general cargo berth expansion) (3) Bulk berth	DD/EIA	Construction															
											DD/EIA	Construction						
													Construction					
	4) Electric Supply Facility (1) 115 kV TL (Bang Saphan SS-IE) (2) 115 kV TL from SS in JPP to IE (3) 500 kV TL & new SS near Bang Saphan SS (4) JPP with 500 kV SS (5) 230 kV TL from new SS to Iron Complex (6) 230 kV TL from SS in JPP to Iron Complex	DD	Construction															
		DD	Construction															
		DD	Construction															
		DD/EIA	Construction															
		DD	Construction															
	5) Telecommunication Facility (1) Expansion of Exchange (2) Optical fiber cable	DD	Construction															
DD		Construction																

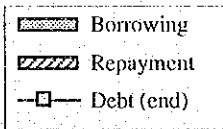
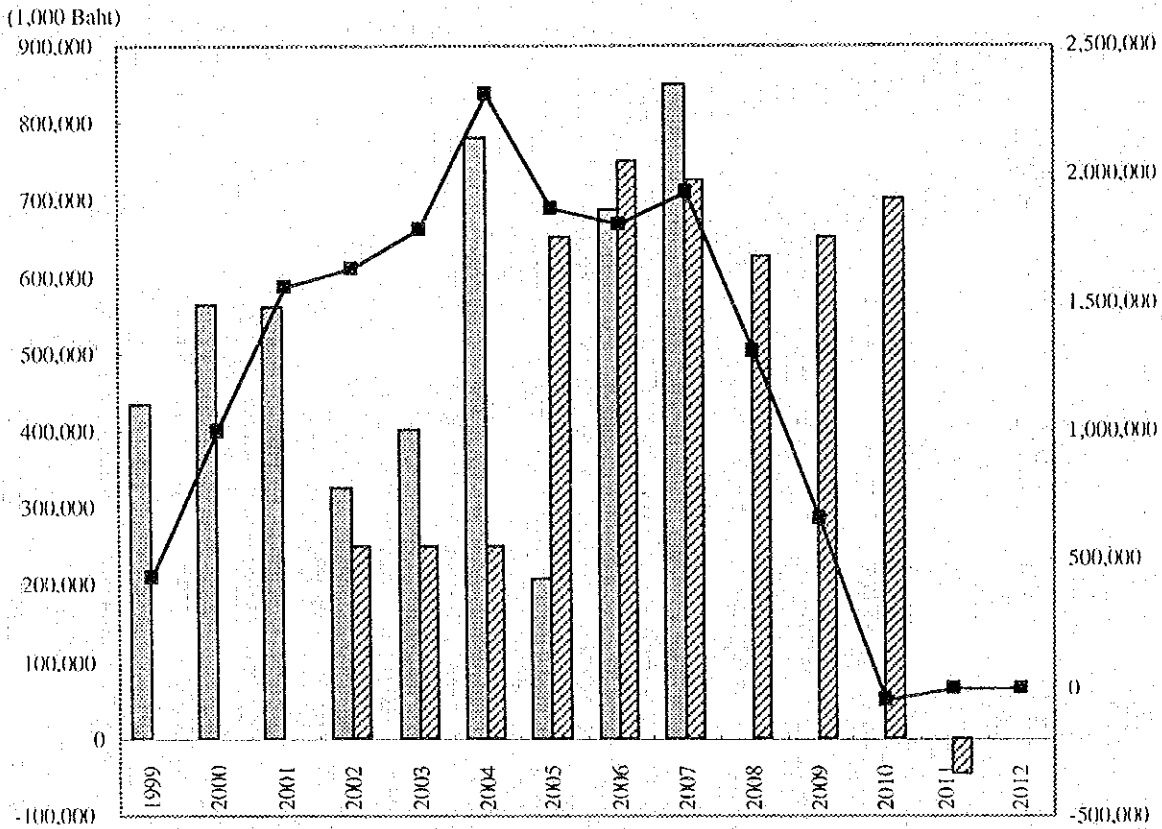
JAPAN INTERNATIONAL COOPERATION AGENCY
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Figure 8.3
Development Schedule

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Figure 10.1 Schematic Capital Structure for the Initial Stage
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Figure 10.2 Debt Service Management
NIPPON KOEI CO., LTD. JAPAN INDUSTRIAL LOCATION CENTER