Figure 11-A-19 Typical Cross Section for Elevated Tollway

Figure 11-A-20 JORR Northern Extension Plan and Profile

5) Western Access Port Highway

472. Widening of Jl. Laks. RE Martandinata from a 4-lane to 6-lane arterial road can take place within the existing right of way from the port to where it passes under the Harbour Toll Road. Thereafter, in the Ancol area there is no room for widening within the existing ROW and the extra lanes will have to be provided either by building a second level or by constructing 3 eastbound lanes on the north side of Kali Ancol and using the existing road for westbound traffic. The latter option would be considerably cheaper than a costly overhead structure required for an elevated road.

473. The only practical way to a construct the Harbour Toll Connector would be to utilize the Jl. Laks. RE Martadinata corridor, because the existing railway tracks and station congested housing areas and the port itself are provide major constraints. A proposed alignment is shown in Figure 11-A-21 ~ Figure 11-A-28.

Figure 11-A-21 Western Access Port Highway andAncol Access Road

Figure 11-A-22 Ancol Access Flyover (1) Plan and Profile

Figure 11-A-23 Ancol Access Flyover (2) Plan and Profile

Figure 11-A-24 Martadinata Flyover Plan and Profile

Figure 11-A-25 Access Ancol Flyover and Martadinata Bridge

Figure 11-A-26 Tanjung Priok Bus Terminal Flyover Plan and Profile

Figure 11-A-27 Enggano Flyover Plan and Profile

Figure 11-A-28 Ancol Access Road Plan and Cross Section

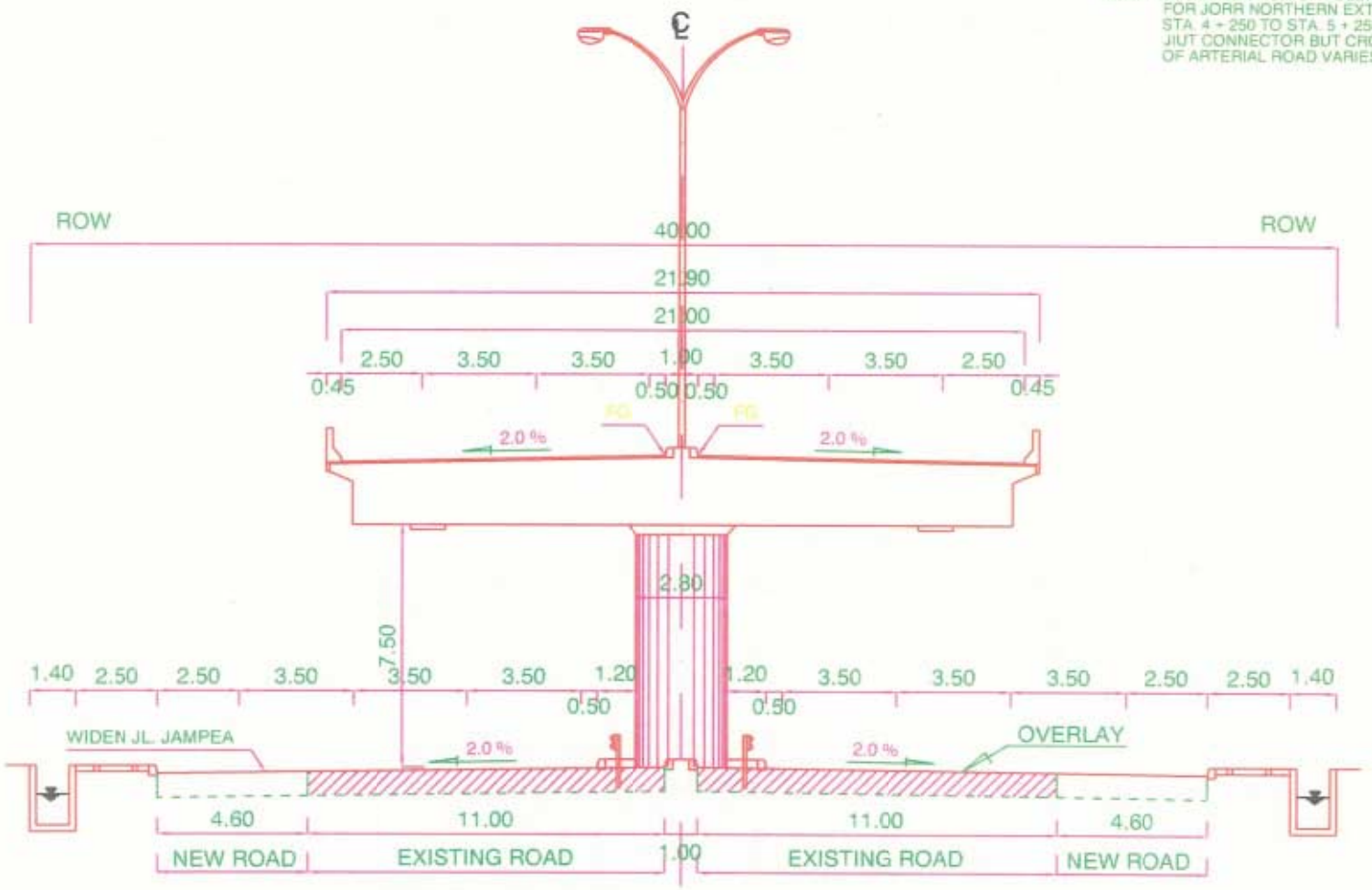
474. Western Access Port Highway crosses the railway to port and a flyover is proposed because in Jakarta, provision of flyover is requested at any railway crossing. Gate-3 of port is schedule to close.

475. Accordingly traffic congestion will be reduced, but staffs and labor to/from the port will be allowed to use this Gate-3 and bus terminal still exist.

476. A schematic diagram showing the relative location of these components is presented on Figure 11-A-29.

Figure 11-A-29 Road Network and Construction Staging

NOTE : CROSS SECTION OF TOLLWAY IS SIMILAR FOR JORR NORTHERN EXTENSION STA. 4 + 250 TO STA. 5 + 250 AND JIUT CONNECTOR BUT CROSS-SECTION OF ARTERIAL ROAD VARIES

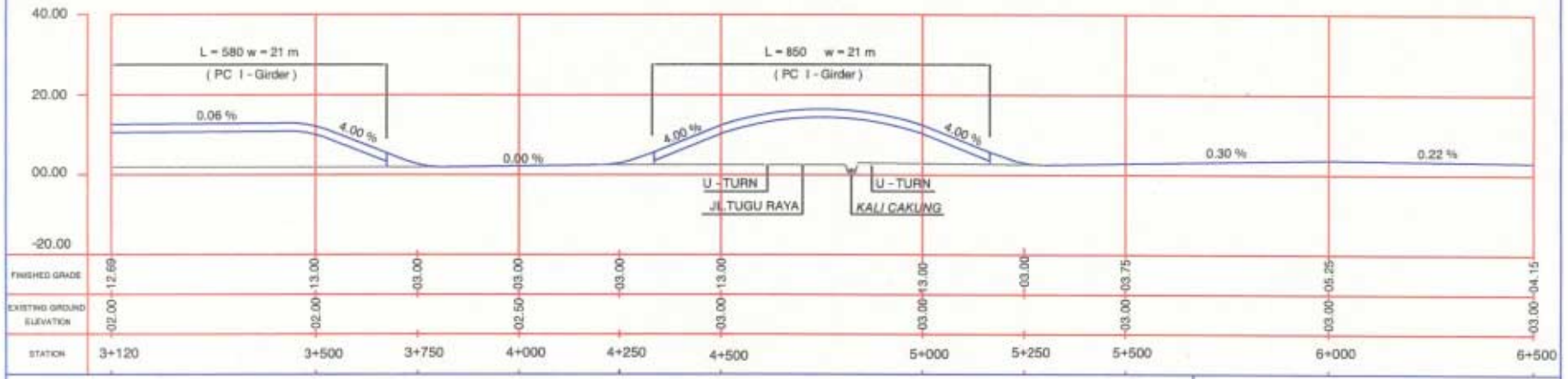


JORR NORTHERN EXTENSION : STA. 0 + 000 ~ STA. 3 + 750

THE STUDY FOR DEVELOPMENT OF THE GREATER JAKARTA METROPOLITAN PORTS IN THE REPUBLIC OF INDONESIA

TYPICAL CROSS - SECTION FOR ELEVATED TOLLWAY

Scale 1 : 200



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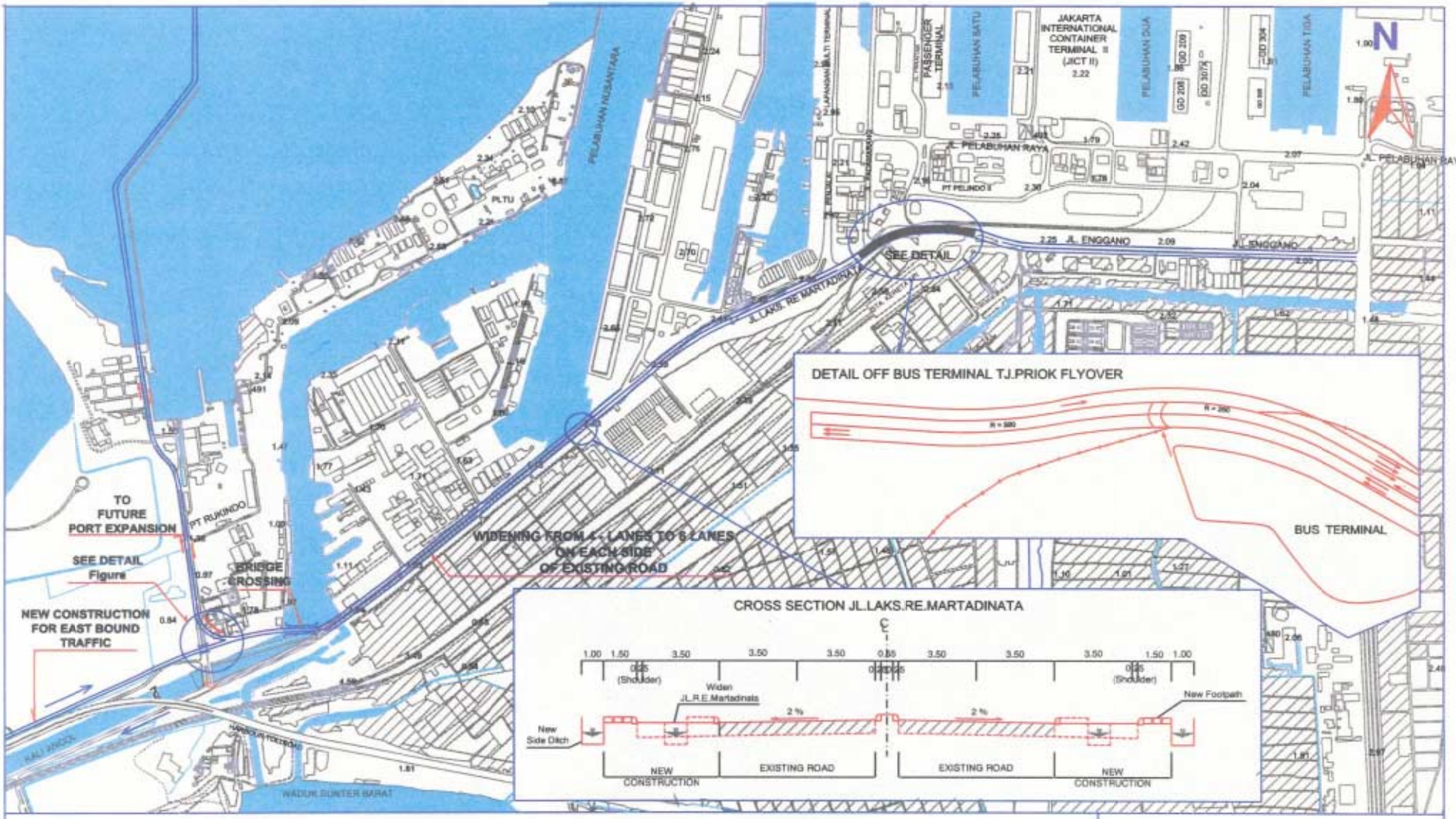
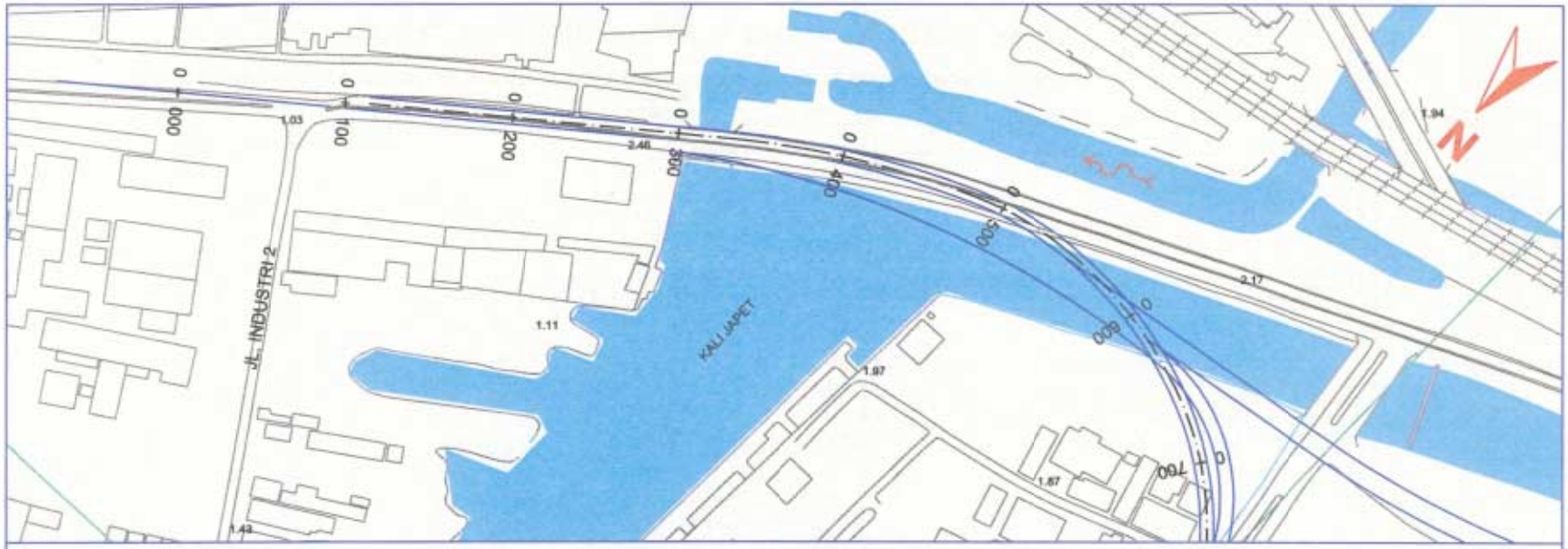
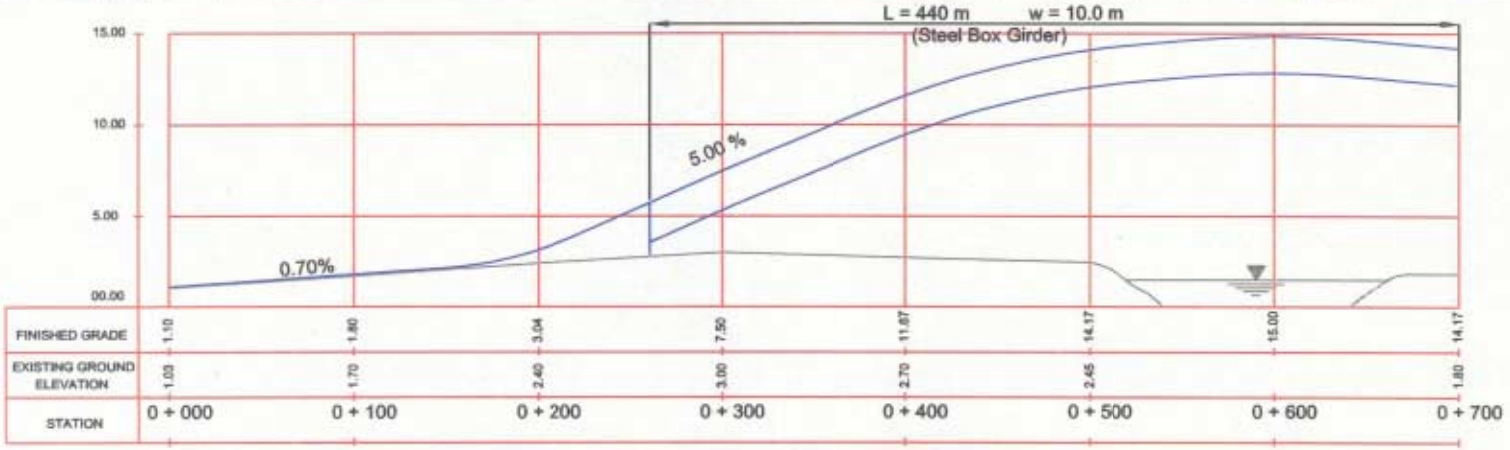
JORR NORTHERN EXTENSION - PLAN AND PROFILE



THE STUDY FOR DEVELOPMENT OF THE GREATER JAKARTA METROPOLITAN PORTS IN THE REPUBLIC OF INDONESIA

WESTERN ACCESS PORT HIGHWAY & ANCOL ACCESS ROAD





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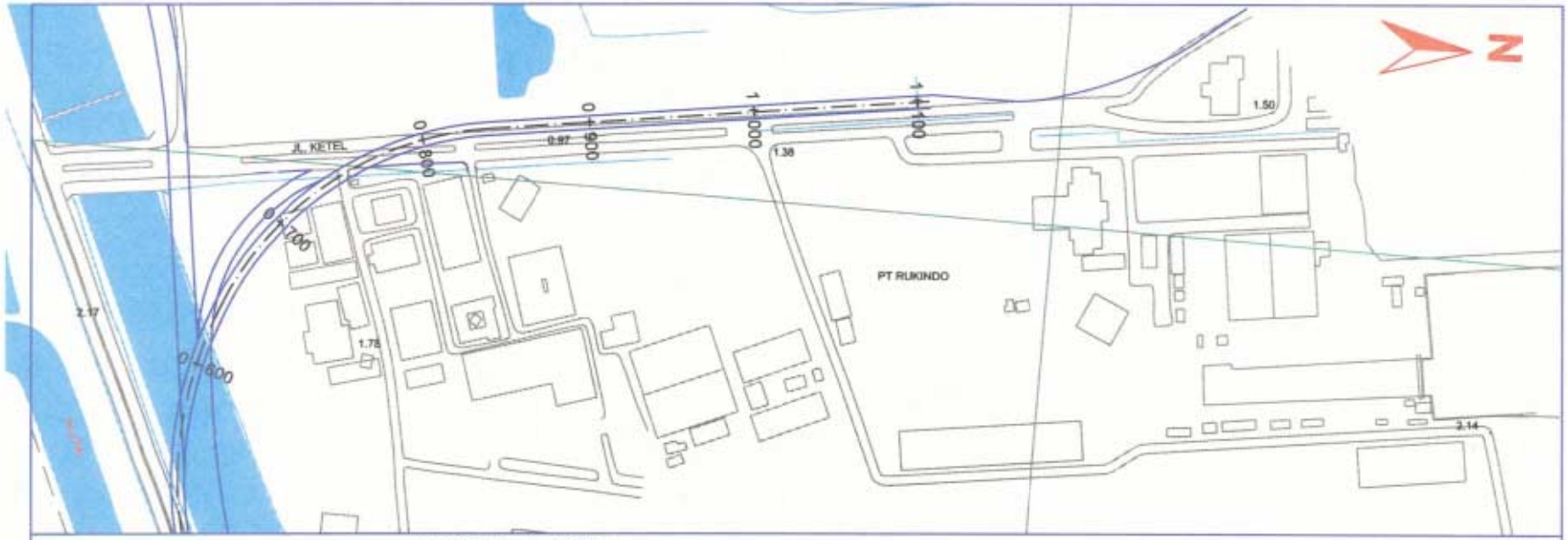
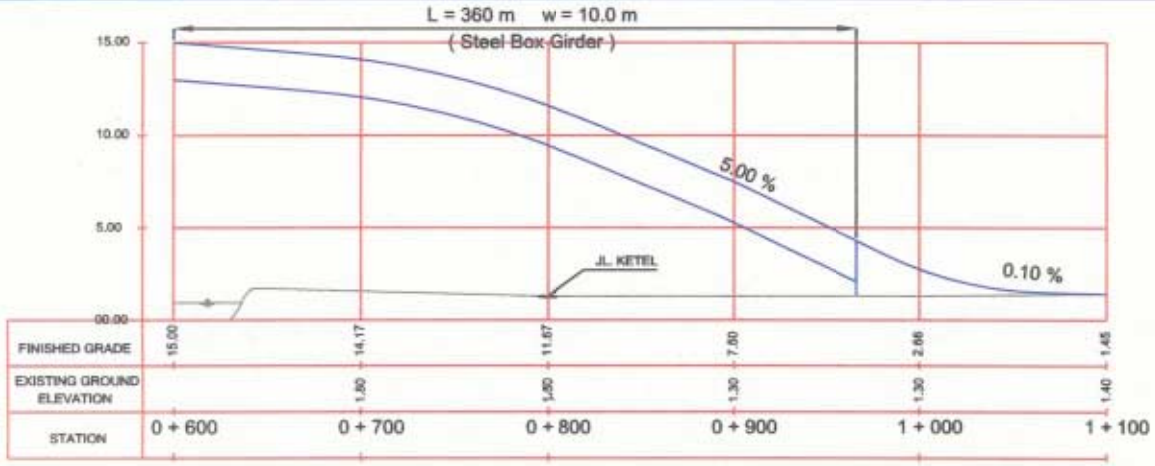
ANCOL ACCESS FLYOVER (1) - PLAN & PROFILE

STA. 0 + 000 ~ STA.0 + 700

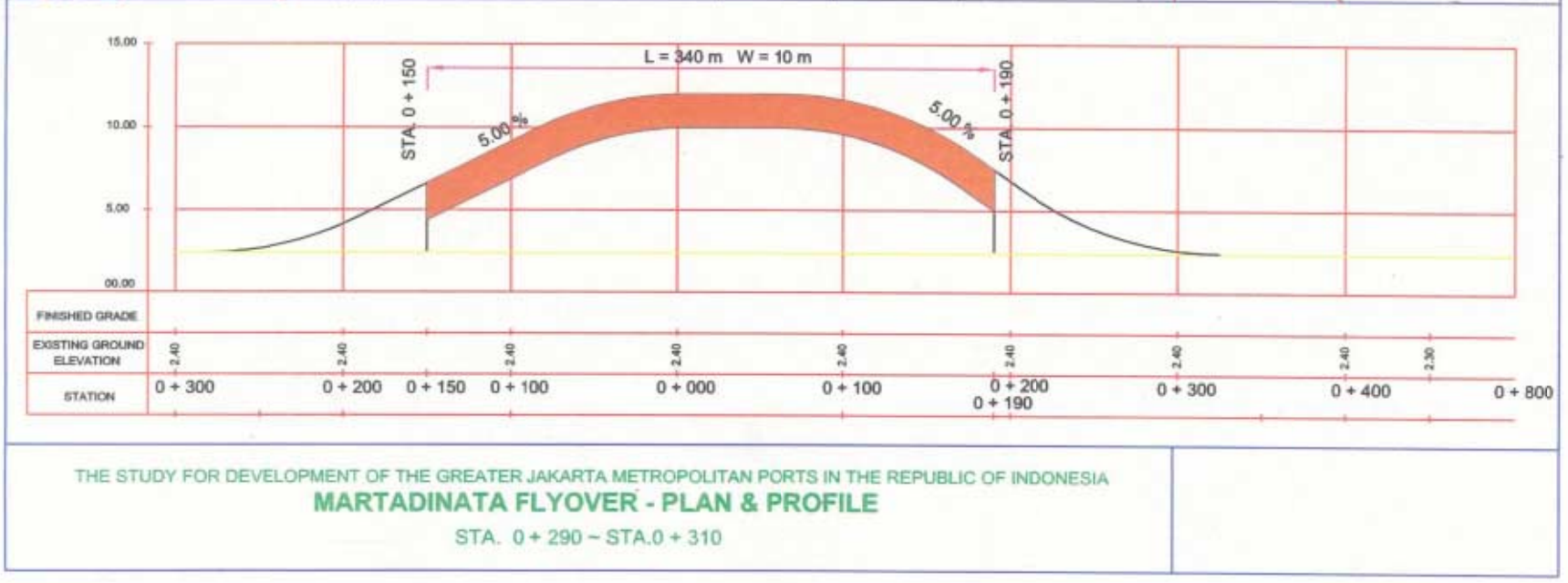




THE STUDY FOR DEVELOPMENT OF THE GREATER JAKARTA METROPOLITAN PORTS IN THE REPUBLIC OF INDONESIA

ANCOL ACCESS FLYOVER (2) - PLAN & PROFILE

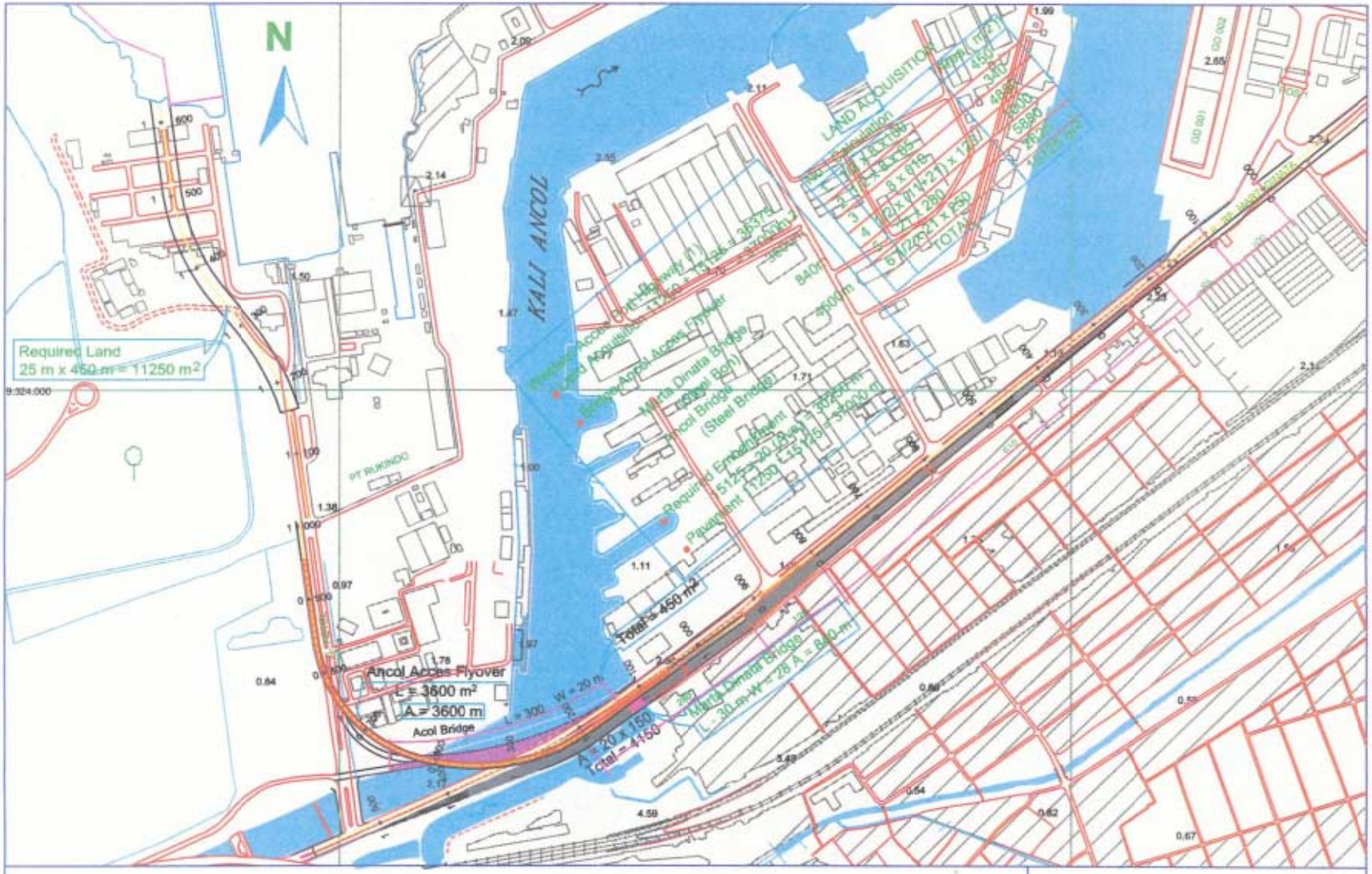
STA. 0 + 600 ~ STA.1 + 100



THE STUDY FOR DEVELOPMENT OF THE GREATER JAKARTA METROPOLITAN PORTS IN THE REPUBLIC OF INDONESIA

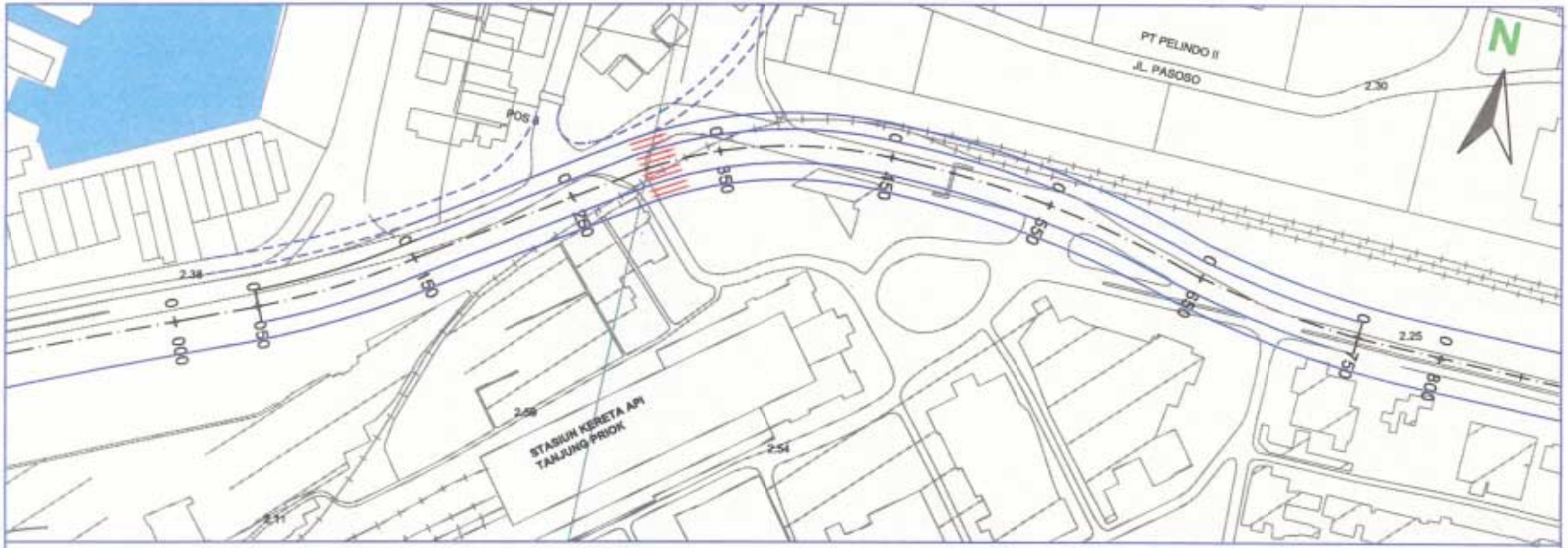
MARTADINATA FLYOVER - PLAN & PROFILE

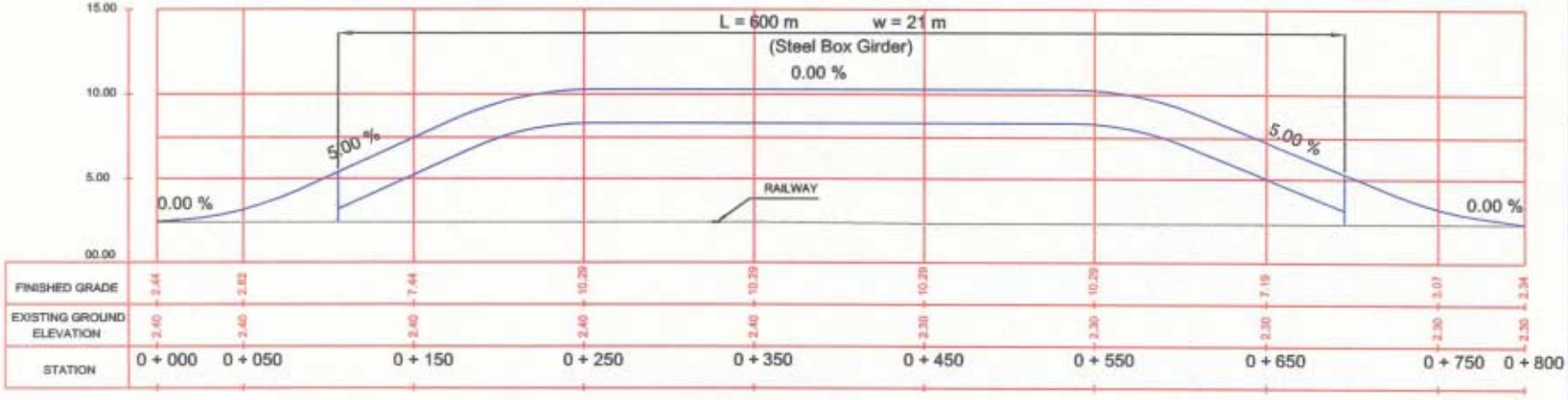
STA. 0 + 290 ~ STA.0 + 310



THE STUDY FOR DEVELOPMENT OF THE GREATER JAKARTA METROPOLITAN PORTS IN THE REPUBLIC OF INDONESIA

ACCES ANCOL FLYOVER & MARTA DINATA BRIDGE

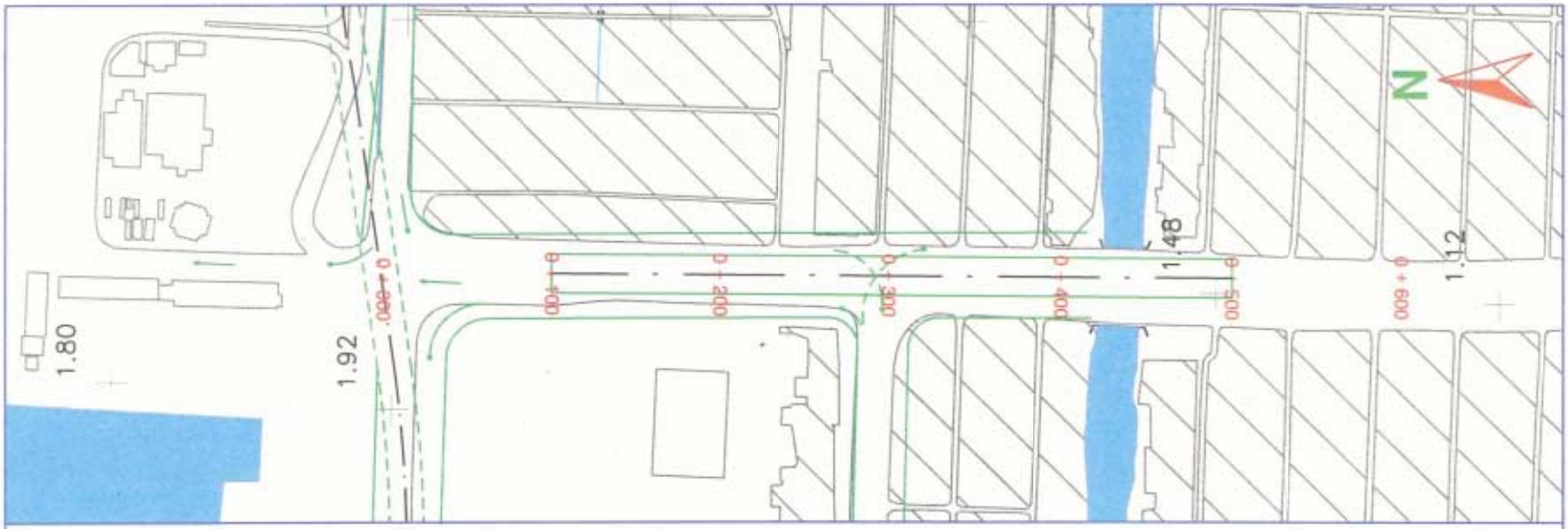


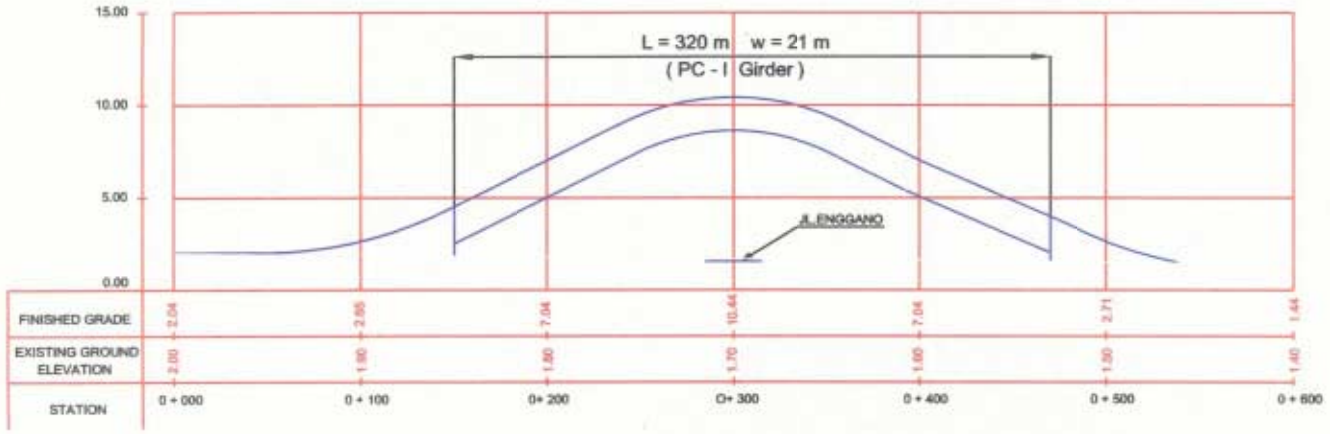


THE STUDY FOR DEVELOPMENT OF THE GREATER JAKARTA METROPOLITAN PORTS IN THE REPUBLIC OF INDONESIA

TANJUNG PRIOK BUS TERMINAL FLYOVER - PLAN & PROFILE

STA. 0 + 000 ~ STA.0 + 800

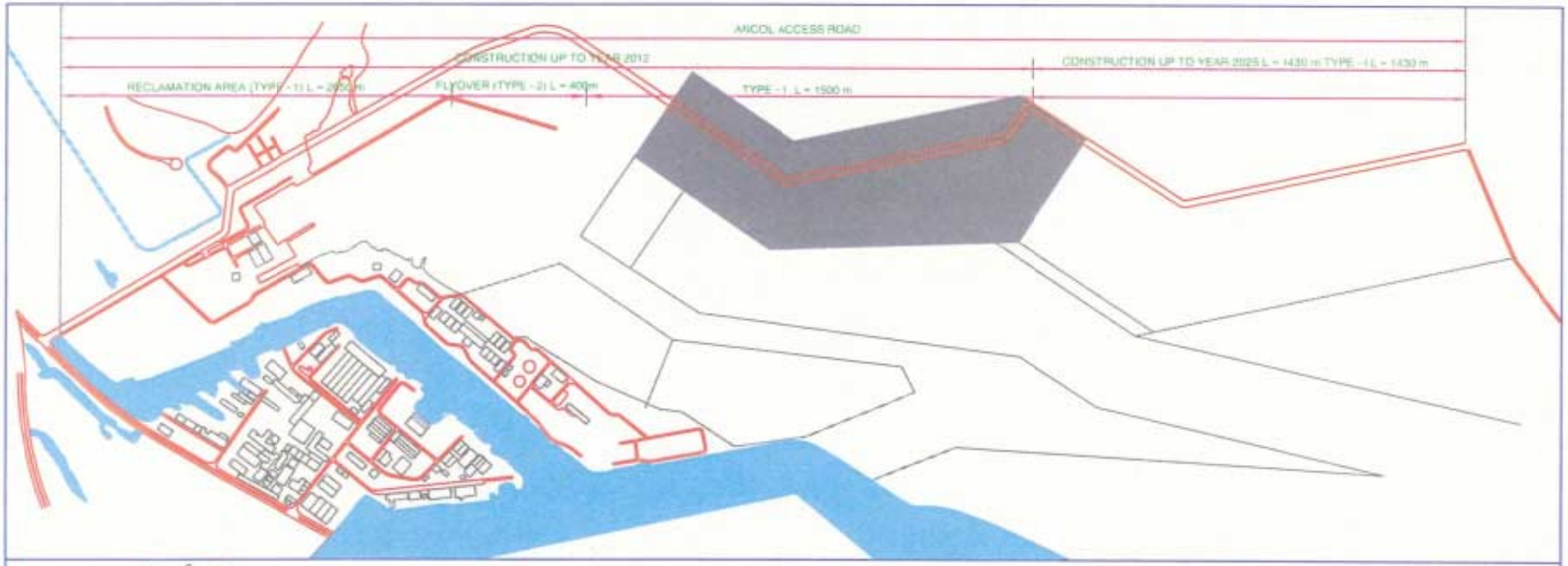


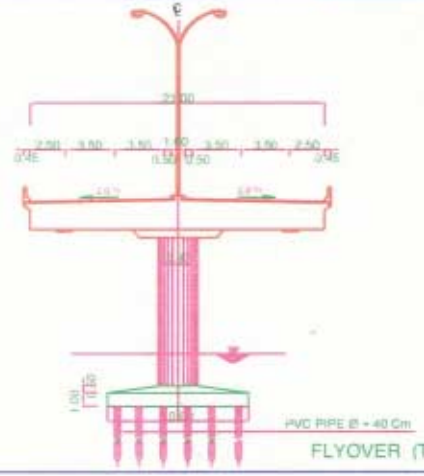


THE STUDY DEVELOPMENT OF GREATER JAKARTA METROPOLITAN PORTS UIN THE REPUBLIC OF INDONESIA

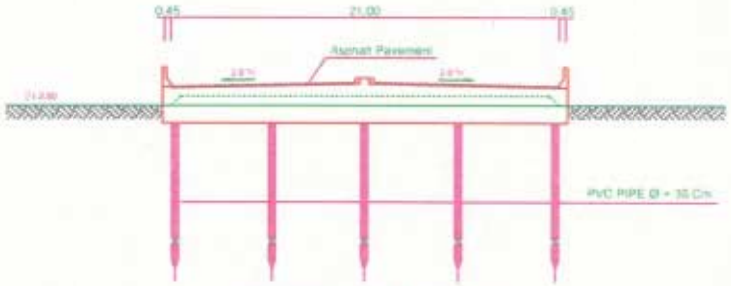
ENGGANO FLYOVER - PLAN & PROFILE

STA. 0 + 000 ~ STA.0 + 600





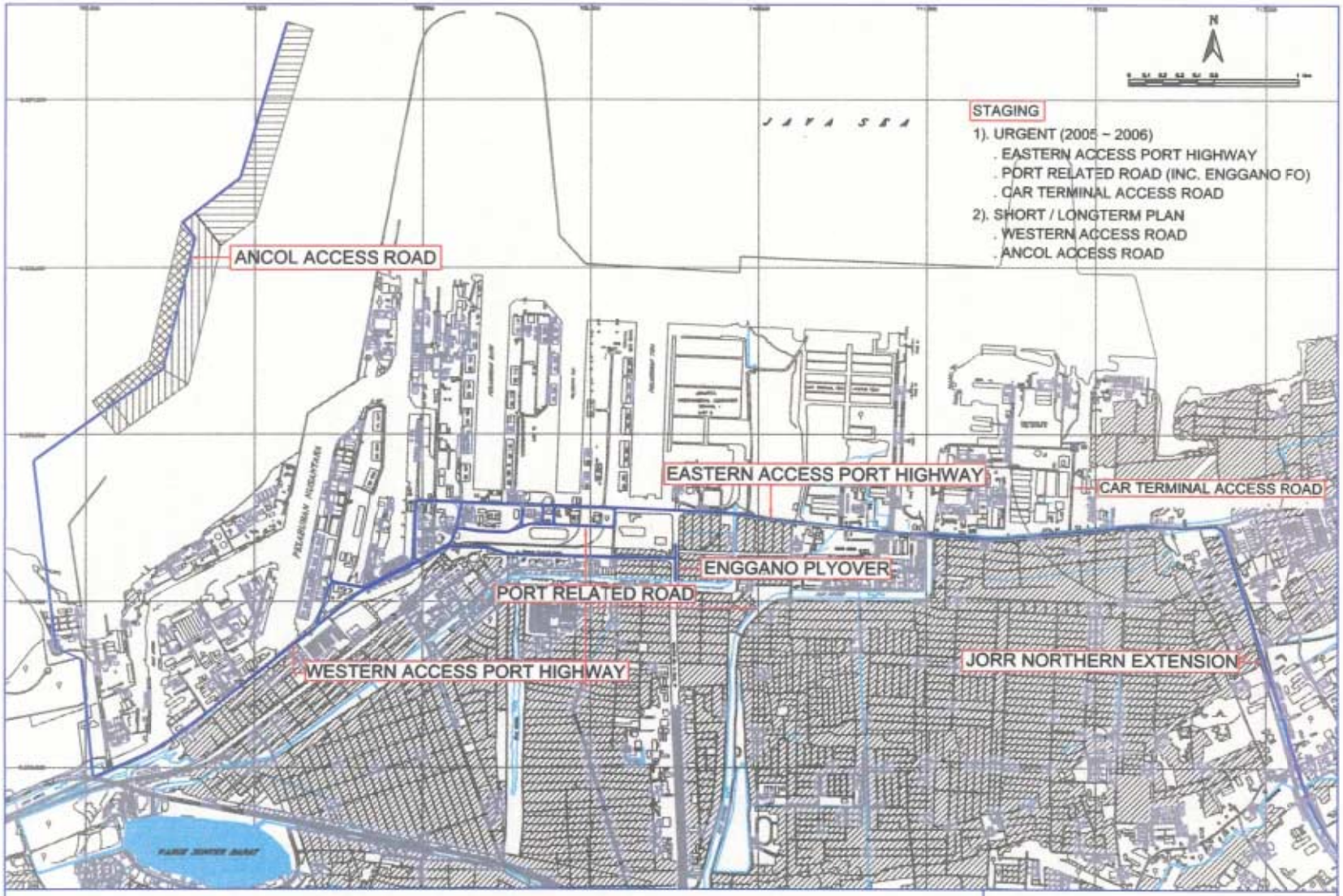
FLYOVER (TYPE - 2)



RECLAMASI AREA (TYPE - 1)

THE STUDY FOR DEVELOPMENT OF THE GREATER JAKARTA METROPOLITAN PORTS IN THE REPUBLIC OF INDONESIA

ANCOL ACCESS ROAD PLAN AND CROSS SECTION



THE STUDY FOR DEVELOPMENT OF THE GREATER JAKARTA METROPOLITAN PORTS IN THE REPUBLIC OF INDONESIA

ROAD NETWORK AND CONSTRUCTION STAGING

11-B. PROPOSED RE-DEVELOPMENT PLAN OF THE TANJUNG PRIOK BUS TERMINAL

11-B-1 Background and purpose

1) Original conditions

477. The area of Tanjung Priok station plaza would become a traffic nodal point in the study because the station area includes or related with the following terms.

- The railway station: passengers of train were expected.
- Port inner road improvement: Jl. Padamarang and the gate 3 would be improved according to the plan of port inner roads. The location of the gate 3 could be changed in the plan.
- New access road development: a new access road would connect to the gate 3 in the station plaza area.
- Tanjung Priok bus terminal is also operated in the station plaza.
- These terms show that the station area would be the traffic nodal point in front of the port.

2) Reviewed conditions

478. However, these conditions have been changed from the original ones in the process of study as follows.

a) The railway station: small possibility for the railway passenger

479. Passenger trains have not been operated in recent two years. Three inter city trains were operated for Solo, Semarang and Surabaya. Only two round trips for Kota station were operated in the morning and afternoon for the inner city trains two years ago.

480. According to the rail passenger survey in the Study on Integrated Transportation Master Plan for JABODETABEK 2000 (Phase 1, JICA), only 103 passengers were counted per day at the Tanjung Priok station. 72 passengers were for boarding and 31 were for alighting.

481. At present day, PT. KAI (Kereta Api Indonesia) operates only cargo trains to the container parks of Pasoso in the port and Sungai Lagua where are located close to the Tanjung Priok station. The trains are operated at about four trains a day in the night. PT. KAI will continuously operate the cargo trains but is not so active to operate the passenger trains in the future. Two major problems are mentioned by PT. KAI. One is poor security around the station. Second is dense settlement along the railway. PT. KAI would not despair of the operation of passenger trains in the future, but they seem not to be active to solve the problems or encourage another agencies to solve the problems.

b) Port inner road improvement: an improvement plan to close the gate 3 for vehicles

482. PELINDO is planning the new inner roads to connect Jl Pasoso and Jl Pulau Payung in the port. The gate 3 would be closed for vehicles in the plan. An effect of the plan is that the directions of port related vehicles could be limited mainly for the west (gate 1) and east (gate 9). Consequently, the transit of port related vehicles could be reduced on Jl. Laks. Re Martadinata and Jl Stasiun. The reduce could contribute less traffic congestion on the streets especially for the Tanjung Priok bus terminal area.

c) Unlikely new access road development

483. A necessity of new access road development was to improve the traffic congestion on Jl. Laks. Re Martadinata and Jl. Stasiun. Ordinary vehicles, public buses and commodity vehicles including container trailers are mixed on the streets. The transit of large vehicles like container trailers from/to the port is a main traffic issue for the streets.

484. According to the improvement plan of port inner road by PELINDO, the gate 3 would be closed in the future for vehicles as mentioned above. The policy could provide simpler circulation of the port related vehicles from/to the port. Moreover, the circulation could contribute to reduce the transit volume of port related vehicles on the both streets.

485. Therefore, the priority of the new access road development has been low. Land acquisition is also definitely difficult for the new access road development. An improvement of the existing road, Jl. Larks. Re. Martadinata and Jl. Stasiun, could address to traffic congestion around the bus terminal.

d) Limited relations to the port

486. A relation between the port and the bus terminal is also limited mostly for commuting use of the employees in the port, and the passengers of passenger ships. PELINDO will continuously open the gate 3 for pedestrians to access to the port. For the passengers to use passenger ships, they usually take vehicles to access to/leave from the passenger ship terminal. Moreover, the passenger ship terminal would be relocated to Ancol in the future port plan. According to a preliminary estimation, the commuter users would be around 10% of all passengers in the bus terminal.

e) The area function remained: a bus terminal

487. Consequently, the function as a traffic nodal point has been reduced for the area. A bus terminal remains as the function of area. Originally, the area is out of the port. Therefore, an integrated re-development with the road networks in the port and access road was the key factor for the task: re-development of the traffic nodal point. The task, however, should be changed to the bus terminal improvement according to the improvement of Western Access Port Highway (Jl. Larks. Re. Martadinata and Jl. Stasiun) and the railway-crossing flyover.

11-B-2 Existing conditions and issues of the bus terminal

1) Traffic volume

488. The Study Team carried out a traffic count survey around the Tanjung Priok bus terminal on 9 (Wednesday) April 2003. The traffic volume around terminal was counted at around 30,000 vehicles including motorcycles pass through the area. The major issue is a traffic route from the east to west. The vehicles on the route pass through a winding narrow street in front of the Tanjung Priok station. The street was the approach to the station. Around 28,000 vehicles were counted on the street. Motorcycles dominate on the street at around 70%. However, the motorcycles are generated on the way of street (around the terminal). About 30,000 vehicles were counted for coming into the terminal area, but the motorcycles dominated at 36.5%. The traffic from the west also includes the motorcycles at 64%.

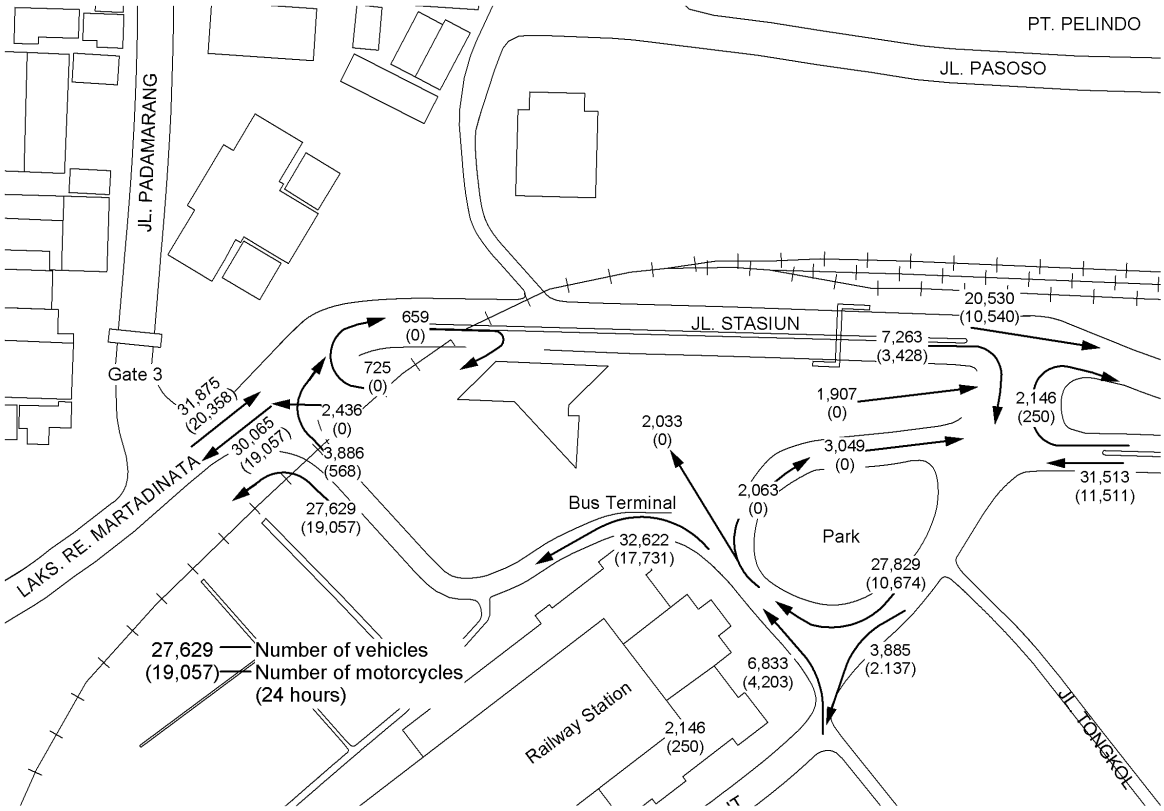


Figure 11-B-1 24 hours Traffic Volume

2) Passengers

489. It is very difficult to count boarding/alighting passengers at the bus terminals in Jakarta. The passengers tend to get on/off the buses anywhere around the terminals. One of reasons is a crowded terminal with buses in small space. Transferring outside of the terminal is practical, safe and can save time for the passengers. Alighting passengers would get off buses before the buses come into the terminals. Boarding passengers would get on the buses after the buses come out from the terminals. They sometimes get on the buses before the buses come into the terminals to get better seats. The conditions are almost same as at the Tanjung Priok bus terminal. Very few passengers are on board into the terminal.

3) Terminal area

490. The Tanjung Priok bus terminal was planned for a Class B terminal in a hierarchy of the bus terminals in Jakarta city. The Class B means an inner city bus terminal. After the Tanjung Priok bus terminal started operation, some bus companies found demand between the terminal and suburban areas especially for commuting to the port. They applied new inter city routes to Dinas Perhubungan DKI. These additional inter city routes quantitatively and functionally affect on the management of the bus terminal although the bus terminal was planned for an inner city terminal.

4) Bus routes

491. Operating buses at the Tanjung Priok bus terminal are summarized in Table 11-B-1 and Table 11-B-2. Most large buses for inner city cover the west areas of Tanjung Priok. However, the buses take the routes of east to use toll roads. Medium and small buses also take the east to

cover the eastern area of Tanjung Priok. Most inter city buses obviously take the east to use the toll roads.

Table 11-B-1 Operating Buses for Inner City (average/day)

No.	Name of Company	Route Number	Operating buses	No.	Name of Company	Route Number	Operating buses
1	PPD	43	5.9	1	PPD	60	6.0
2	PPD	P77AC	11.9	2	STEADY SAFE	940	5.5
3	MAYASARI BAKTI	50	3.3	3	STEADY SAFE	P73	5.4
4	MAYASARI BAKTI	51	0.5	4	JASA UTAMA	P125	6.5
5	MAYASARI BAKTI	P08	11.9	5	PAHALA K.	P116	6.5
6	MAYASARI BAKTI	P14	7.2				
7	MAYASARI BAKTI	P40	7.0				
8	MAYASARI BAKTI	P07AC	6.1				
9	MAYASARI BAKTI	P25AC	7.0				
10	MAYASARI BAKTI	P82AC	7.3				
11	MAYASARI BAKTI	P49AC	5.1				
12	ANDALAN	P89	10.6				
13	STEADY SAFE	948	6.6				
14	STEADY SAFE	P65AC	5.6				
	Direction east		96.1		Direction west		29.9
	Large bus total						126.0
1	METROMINI	U23	38.6	1	METROMINI	U24	45.0
2	METROMINI	T41	49.6				
	Direction east		88.2		Direction west		45.0
	Medium bus total						133.2
1	MIKROLET	M14	44.5	1	MIKROLET	M15	45.5
2	MIKROLET	M49	26.3	2	MIKROLET	M15A	44.1
3	MIKROLET	M30	26.2				
4	KWK	U01	33.8				
5	KWK	U03	30.5				
6	KWK	U05	29.2				
7	KWK	U06	30.9				
8	KWK	U08	29.6				
9	KWK	U09	26.9				
10	APB	JU02	32.4				
11	APB	JU03	3.3				
12	APB	JU04	31.7				
	Direction east		345.3		Direction west		89.6
	Small bus average						434.9
	All bus average						694.1

Source: Suqu Dinas Perhubungan Wilayah Kota Jakarta (Sub-department of Communications, North Jakarta Municipality)

Note: The figures were calculated from a list of buses operating at the Tanjung Priok Terminal.

Table 11-B-2 Operating Buses for Inter City (average/day)

No.	Name of Company	Route Number	Operating buses	No.	Name of Company	Route Number	Operating buses
1	GIRI INDAH	BOGOR	3.3	15	LURAGUNG J	KUNINGAN	2.3
2	LIMAS	BOGOR	2.9	16	BUDIMAN	TASIKMALAYA	3.3
3	LIMAS	BOGOR	1.5	17	SINAR J	CILACAP	3.4
4	INDAH MURNI	BOGOR	3.6	18	AJA	TANGERANG	15.1
5	KRAMAT JATI	BOGOR	3.0	19	PRIMA JASA	Rangkas Bitun	11.2
6	LAJU UTAMA	BOGOR	3.6	20	ARIMBI	MERAK	6.1
7	CENDRAWASIH	BOGOR	2.9	21	ASLI	LABUHAN	3.0
8	KOSUB	CIREBON	7.6	22	KARINA	MADURA	1.0
9	MAYA RAYA	CIKARANG	8.5	23	PAHALA K	MADURA	1.0
10	PAHALA K.	SUKABUMI	2.6		KRAMAT JATI	MADURA	1.0
11	RENCANA J	SUKABUMI	3.1				
12	WARGA BARU	CIKAMPEK	7.6				
13	WARGA BARU	CIKAMPEK	5.0				
14	SAHABAT	KUNINGAN	2.3				
	Large bus total						104.9

Source: Suqu Dinas Perhubungan Wilayah Kota Jakarta (Sub-department of Communications, North Jakarta Municipality)

Note: The figures were calculated from a list of buses operating at the Tanjung Priok Terminal.

5) Bus operations

492. The buses act like taxies in the bus terminal. Bus drivers are individual business proprietors. They rent the buses from their bus companies. The drivers are charged for bus rent by their companies whether they make earnings or not. Therefore, they tend to park longer for getting passengers as many as possible in the terminal. This operational situation makes the terminal congested chronically.

493. Parking space of buses is out of scope in a public bus terminal plan. The parking area should be provided by bus companies. According to the planning standard of bus terminal by UPT Terminal, the parking space is also not planned in the terminal for inner city terminal, but it needs for inter city terminal. One of reasons complicating the situation of the Tanjung Priok bus terminal, is that the terminal acts as an inner/inter city bus terminal although the terminal was established as the inner city terminal.

6) Terminal management

494. UPT Terminal has jurisdiction over the bus terminals in DKI Jakarta. The Tanjung Priok bus terminal is directly managed by Suku Dinas Perhubungan Wilayah Kota Jakarta Utara (Sub-department of Communications, North Jakarta Municipality).

495. They also understand that the bus terminal is used over capacity, and have ideas to relocate or expand the bus terminal. However, the major matter is preparation of land. The municipality was not able to find the suitable and available land in the urban area.

7) Confused circulation

496. Considerable buses surely make confused circulation in and around the terminal. Limited area and unique shape of the bus terminal site also constrain the bus circulations to be confused. Some large/medium buses on the route east depart from the west side of terminal. These buses turn to the right to take the routes east. Furthermore, through traffic could turn back around the terminal.

8) Users of buses related to the port

497. Two kinds of users related to the port are mentioned in the bus terminal. The main users of terminal are employees in the port especially for the office areas around PELINDO. They would use the bus terminal and the gate 3.

498. Considerable commuters can be seen at the small factories located on the PELABUHAN NUSANTARA in the port. However, they directly commute to the factories by vehicle (van, bus and taxi) through the gate 1. The area is a little far from the bus terminal.

499. The passengers of passenger ships also could use the bus terminal. They need to take transportation or walk to the passenger ship terminal from the bus terminal. Most passengers of ships usually take vehicles (private cars, share-ride vans, taxies and buses) to arrive at/leave from the passenger ship terminal. It means that few passengers of ships would use the bus terminal.

11-B-3 Urban situations around the terminal

1) Population

500. DKI Jakarta has population at around 8.4 million, and 1.4 million for Jakarta Utara in 2002. In another JICA study team: the Study on Integrated Transportation Plan for JABODETABEK (SITRAMP) Phase 2, they estimated the future population of Jakarta Utara at around 1.5 million in 2020. It means that the population growth is low. An annual growth rate is calculated at 0.3% in Jakarta Utara. Some areas show rather higher population growth in the future. The areas would be expected new residential development such as high-rise apartments. Meanwhile, the population growth of DKI Jakarta is estimated at less than the one of Jakarta Utara. Generally, the population of DKI would outflow to the suburban areas, Bogor, Tangerang and Bekasi especially in middle-class.

501. This situation would say that a marked increase of bus passenger demand would not be expected in the future especially for the departing passengers (commuters from the surrounding area of the terminal). In some areas, new residential area would be planned at high-density (high-rise housings). It would be dubious that the persons of their target market will use the public buses for the commuting.

2) Land use

502. A remarkable land use of Jakarta Utara is industrial area. The land accounts for nearly 18% of whole land use in Jakarta Utara. Indeed, the industrial area of Jakarta Utara occupies at around 56% of the one in DKI. On the other hand, facilities of commercial/business, education and government use the land in small share. Another area is mostly used for residential land.

503. In the surrounding area of terminal, Kelurahan Warakas and Kebon Bawang, a high-density residential land accounts for 82% of all land use in the Kelurahans. The land use pattern shows that the boarding demand (commuters from the area) would be higher than the one of alighting (commuters into the area) for the passengers of bus terminal.

3) Urban development plans

504. The surrounding area of bus terminal is planned for a residential area with medium population density by the municipality. This means that the future urban features would not be much difference than the present one in the area. Therefore, a remarkable demand of inflow passengers would not be expected on the plan.

11-B-4 Related conditions, policies and measures for the study

505. Related conditions, policies and measures for the study are summarized as follows.

- Relocation ideas and Unlikely location change
- Limited area preparation
- Uncertain demand increase of passengers
- Traffic separation
- Simple circulation of the buses
- Reduced function as a terminal

1) Relocation ideas and Unlikely location change

a) Relocation ideas and a study process

506. A new mayor of North Jakarta Municipality has acceded to the post. The mayor announced an idea to relocate the Tanjung Priok bus terminal in a municipality meeting on 23 June 2003. Bappekodya: the planning section of municipality, will address the relocation of bus terminal.

507. Before new mayor's announcement, the Ministry of Settlement and Regional Infrastructure (previous name was the Ministry of Public Works) studied the relocation of bus terminal. The ministry submitted the Jakarta Utara municipality the plan and the municipality accepted the plan. According to the relocation plan, the relocation site was recommended at the container yard of Sungai Lagua on Jl. Martadinata owned by PT.KAI. The relocation distance was only 700m to the west.

508. In the relocation study, the municipality held a meeting with PT. KAI regarding to use the land of container yard. However, PT. KAI had already contracted with a private company to use the land for ten years from 2001. Next, the municipality held a coordination meeting with PELINDO, and another related agencies on the bus terminal. The municipality requested PELINDO to include the bus terminal in the relocation plan of the passenger ship terminal at the east Ancor reclamation site.

509. PELINDO declined the request from municipality. They have not planed the bus terminal in the port plan. Their idea for the commuters to port is to construct a pedestrian bridge across Jl. Stasiun in the plan.

510. On the other hand, the municipality is also negative to prepare the new land for the bus terminal in the urban area. The municipality still expects the coordination with PELINDO or DGSC in higher political level.

511. Regarding to the process of relocation land mentioned above, the improvement at the existing location is also an appropriate option to be proposed in the study as follows:

- Improvement at the existing area, or
- Partial relocation (depend on the bus routes of west and east for ex.).

b) Possible and suitable site of the relocation

512. For the bus terminal relocation, the container yard of PT KAI would be suitable on both location and space. The site would not need re-arrangement of the bus routes. Meanwhile,

PELINDO has changed a schedule to relocate the passenger ship terminal to the year 2010 in the port plan. It means that the container yard could be still a candidate for the relocation site considering the schedule.

2) Limited area preparation

513. The existing bus terminal area is measured at around 10,000m^2. Jakarta Utara municipality owns the land. The municipality also owns a park close to the terminal area. The park area is measured at nearly 2,400m^2. The total area is measured at around 14,000m^2 including a small street between the bus terminal and park.

514. The major constraint is the rail station building for the area. The building sticks out to the bus terminal area. If the building could be removed, the improvement of bus terminal would exponentially become easier and more effective.

515. However, the building built in 1920-1925, and is registered for a high priority conservation building in DKI Jakarta cause of;

- Over 50 years old;
- Specific architecture (art deco);
- Rarity (only two buildings in the world, the other one is in Netherlands); and
- Originality.

516. The remove (even 100m for the west) should be controversial among several organizations in the government, residents and NGOs. Therefore, the study team considered the building not to be touched in the study.

3) Uncertain increase of passengers

517. Plans of bus terminal should be based on passenger demand but number of bus. The number of bus will be calculated from the passenger demand to provide facilities in bus terminal. However, the number of bus passengers is hardly estimated under the actual traffic (buses and passengers) situations in/around the bus terminals even by bus passenger count survey in Jakarta. Some survey results could show considerable difference among a few times survey at the same place.

518. Moreover, the future demand of passengers could not be estimated in the study because the demand forecast requires bus passenger survey at least. The demand depends on passenger flows of origins and destinations, not only at the Tanjung Priok bus terminal. Socioeconomic forecast is also required for the forecast.

519. Additional demand of the bus passengers at the Tanjung Priok terminal might not be expected in the future, instead, it might be possible to decrease. If the tendency of out migration from DKI would be continued, and there would be no development projects achieved, the additional demand would not be expected.

4) Traffic separation

520. Two future plans could contribute to separate the traffic volume around the terminal: closing the gate 3 and the railway-crossing flyover construction. After the accomplishment of the conditions, the traffic around terminal would mainly be limited for the buses and domestic vehicles. The through traffic would pass the railway-crossing flyover. The buses and domestic vehicles could accept the existing circulation after the separation.

5) Simple circulation of buses

521. Simple circulation of buses should be provided corresponding to the routes (directions). One of reasons of the congestion around bus terminal is mentioned at confused routes management. Some buses take the western exit although those routes are to the east.

522. The circulation tangled at the gates should be improved for effective operation and management. The simple circulations: from/to the east and west are main policies for the improvement.

6) Reduced function as a terminal

523. The main function of terminal is transfer among traffic: railway – bus, inter city bus – inter city bus, inter city bus – inner city bus or inner city bus – inner city bus. The Tanjung Priok terminal has reduced the function as a terminal. The primary transfer between railway and bus has not existed for two years at least. The transfer could not be expected in the future.

524. For the inter city buses, the main bus terminals of DKI would be Rambutan, Lebak Bulus, Kalideres and Pulogadung. Another inter city buses are operated from terminals of bus companies. According to the data of inter city buses from Suqu Dinas Perhubungan, the passengers on board from the bus terminal (departure) were calculated at less than ten per bus/day in average (February 2003). The bus count survey results of JICA study, the Study on Integrated Transportation Master Plan for JABODETABEK (SITRAMP) Phase 2, also indicated the average passengers from the bus terminal (departure) were at less than ten in August 2002. These show low occupancy of the departing buses for large buses (55 seats in average capacity) used as the inter city buses.

525. The existing situations say that the demand of transfer has been reduced at the bus terminal. The bus terminal is used for a turn-round point of the buses at the end of routes. It can be said that the Tanjung Priok bus terminal has not actually functionated as the terminal.

11-B-5 Bus terminal improvement plan

1) Existing conditions

a) Volume of departing passengers and facilities to be reinforced

526. The buses for west routes totally would have higher occupancy. For each type of buses, the followings are found in the situations.

i) Large buses:

- For the west: the departing passengers in the morning are more than in the evening. There would be the commuters for the west.
- For the east: the peaks of departing buses are in 7:00 – 9:00 and 16:00 – 18:00. The passengers in the evening are around double the ones in the morning. There would be the commuters from the east.

ii) Medium buses:

- For the west: the peak of departing buses and passengers is in 7:00. There would be the commuters for the west. The occupancy in the evening is higher than in the morning.
- For the east: almost empty buses depart from the terminal except in the morning, although the numbers of buses departed for the east are more than the west. The

shares are 58% for the east and 42% for the west. According to an observation, the most buses wait on Jl. Stasiun after leaving from the terminal.

iii) Small buses:

- For the west: the departing buses, passengers and occupancy in the morning are more than in the evening. There would be the commuters for the west.
- For the east: The passengers in the evening are more than in the morning. There would be the commuters from the east.

527. Table 11-B-3 summarizes the conditions of departing passengers and the facilities to be reinforced in the terminal according to the existing conditions.

Table 11-B-3 Facilities to be reinforced according to Demand by Direction

Bus types		Direction West	Direction East
Large Bus	Passenger Conditions	Commuting for the west (boarding in the morning) Commuting from the west (boarding in the evening) 56% occupancy in average	Commuting from the east (boarding in the evening) Commuting for the east (boarding in the morning) 43% occupancy in average
	Facilities required	Boarding berths Alighting berths Bus pool	Boarding berths Alighting berths Bus pool
Medium Bus	Passenger Conditions	Commuting for the west (boarding in the morning) Commuting from the west (boarding in the evening) 54% occupancy in average	Commuting for the east (boarding in the morning) Few passengers in the evening (almost empty buses departing except in the morning) 17% occupancy in average
	Facilities required	Boarding berths Alighting berths Bus pool	A few boarding berths A few alighting berths Bus pool
Small Bus	Passenger Conditions	Commuting for the west (boarding in the morning) Commuting from the west (boarding in the evening) 58% occupancy in average	Commuting from the east (boarding in the evening) Commuting for the east (boarding in the morning) 33% occupancy in average
	Facilities required	Boarding berths Alighting berths Bus pool	Boarding berths Alighting berths Bus pool

Source: Bus count survey at the Tanjung Priok bus terminal on 20 August 2002 (SITRAMP Phase2, JICA Study)

b) Peak hour demand

528. The peak hour demand is considered on the bus terminal plan. The demands of both boarding/alighting passengers are usually considered for the plan. However, it is very difficult to count the boarding/alighting passengers at the bus terminals as mentioned above. Therefore, the demand was based on the buses operated in the peak hour. It should be noticed that this peak number of buses would not always show the peak demand (number of passengers). Some buses should leave the terminal on requirement of the administration whether the passengers are on board or not.

529. Table 11-B-4 roughly explains the peak times by directions east and west. Figure 11-B-2 shows the existing bus operations around the Tanjung Priok bus terminal in the peak hours based on the traffic count survey.

Table 11-B-4 Peak Times of Bus Operation

	Large/Medium Bus		Small Bus	
	Departure	Arrival	Departure	Arrival
Direction East	7:00	8:00	7:00	7:00
Direction West	10:00	8:00	16:00	7:00

Source: Traffic count survey around the Tanjung Priok bus terminal on 9 (Wednesday) April 2003.

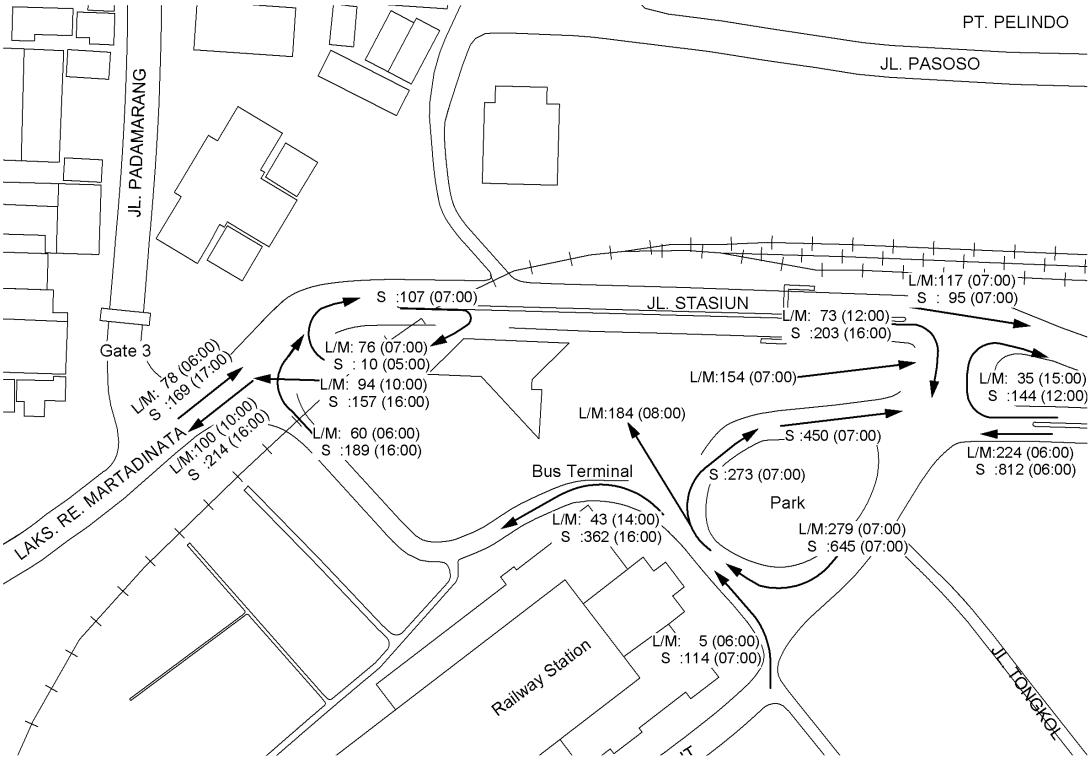


Figure 11-B-2 Existing Peak Hour Bus Operations around the Terminal

c) Circulation

530. Too much bus traffic to the space obliges the circulations to be complicated. Simpler circulations should be designed to prevent crossing the routes east and west for the improvement. Figure 11-B-3 shows the existing traffic circulations. The specific problems are:

- Traffic congestions at the gates (the routes east and west), and
- Routes crossing of the east and west.

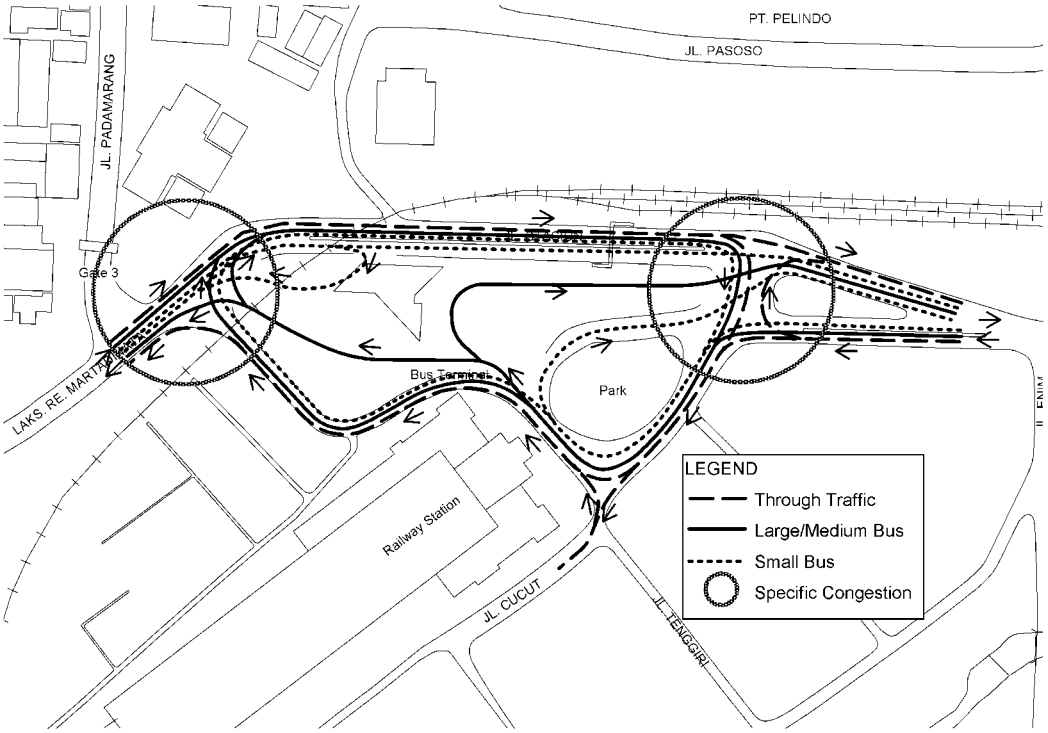


Figure 11-B-3 Existing Circulation

d) Spatial using

531. The space is not advantageous for the passengers to use the terminal. It is too tight with the buses in/around the terminal, and too much congestion of the passengers and vehicles. There are another constraints on the existing spatial use of the terminal as follows:

- The park limits the terminal area,
- Kiosks occupy considerable space,
- Most space is mainly used for bus pools,
- No boarding/alighting berths are provided, and
- No platforms for passengers are provided.

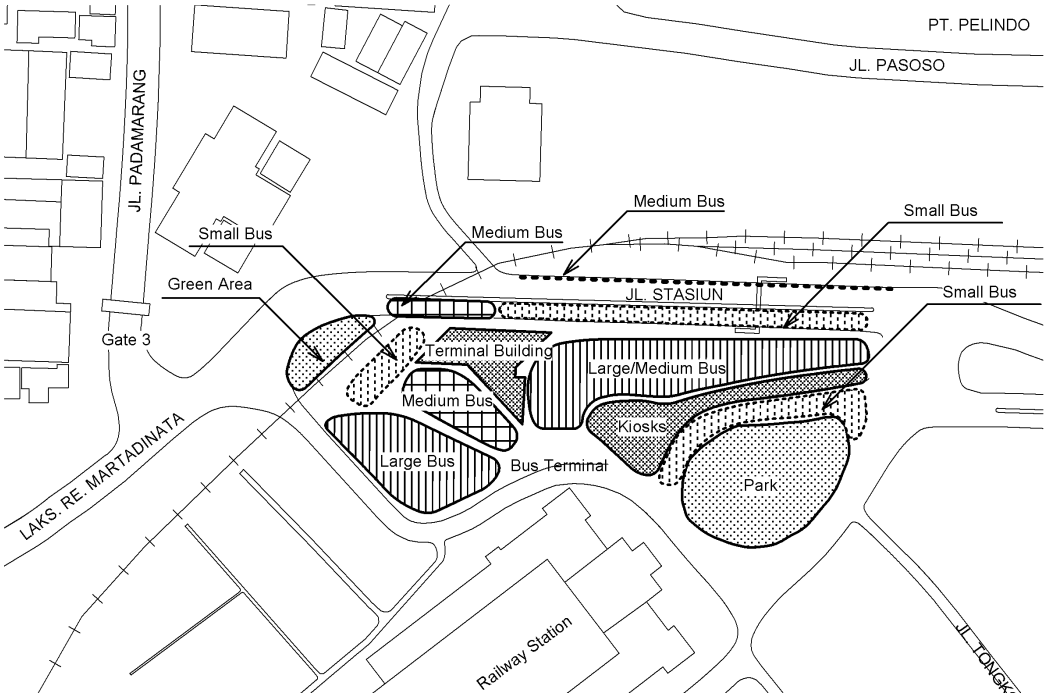


Figure 11-B-4 Existing Spatial Management

Figure 11-B-5 Aero photo at the Bus Terminal