

Chapter 36 Short-term Development Plan of Ports for 2010

36.1 Required port facilities and equipment for major ports in Hanoi segment

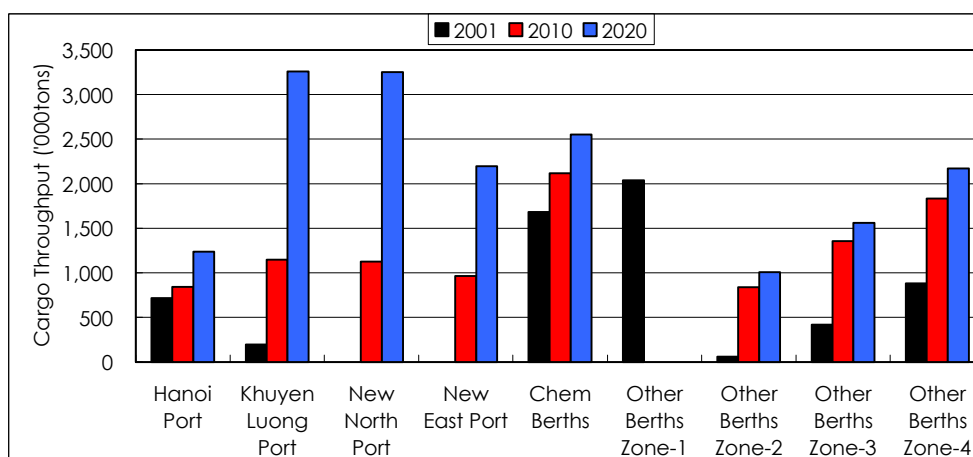
36.1.1 Distribution of cargo to each Port/Berth

Based on the principle for distributing roles and functions among ports/Berths in the Hanoi segment set in the Master Plan (see **Section 23.2.2**), concrete distribution of cargo to each port/Berth in 2010 is summarized as shown in **Table 36.1.1**, **Figure 36.1.1** and **Figure 36.1.2**. The grounds of distribution by each cargo type are mentioned in the following part.

Table 36.1.1 Cargo Throughput of Ports/Berth Groups in Hanoi Segment (2010)

Port	Cargo Throughput (1000tons)							Container (1000TEUs)
	Construction Material	Cement	Fertilizer	Coal	Paddy/Rice	Others	Total	
Hanoi Port	395	198		204	0	47	844	
Khuyen Luong Port	776	198	0	127	0	47	1,148	
New North Port	971	99		32		23	1,125	
New East Port	194	495		158		116	964	32
Chem Berths	1,729	289				97	2,115	
Sub-total	4,065	1,280	0	521	0	330	6,196	32
Other Berths	2,509	932		177		409	4,027	
Total	6,574	2,212	0	698	0	739	10,223	32

Source) JICA Study Team



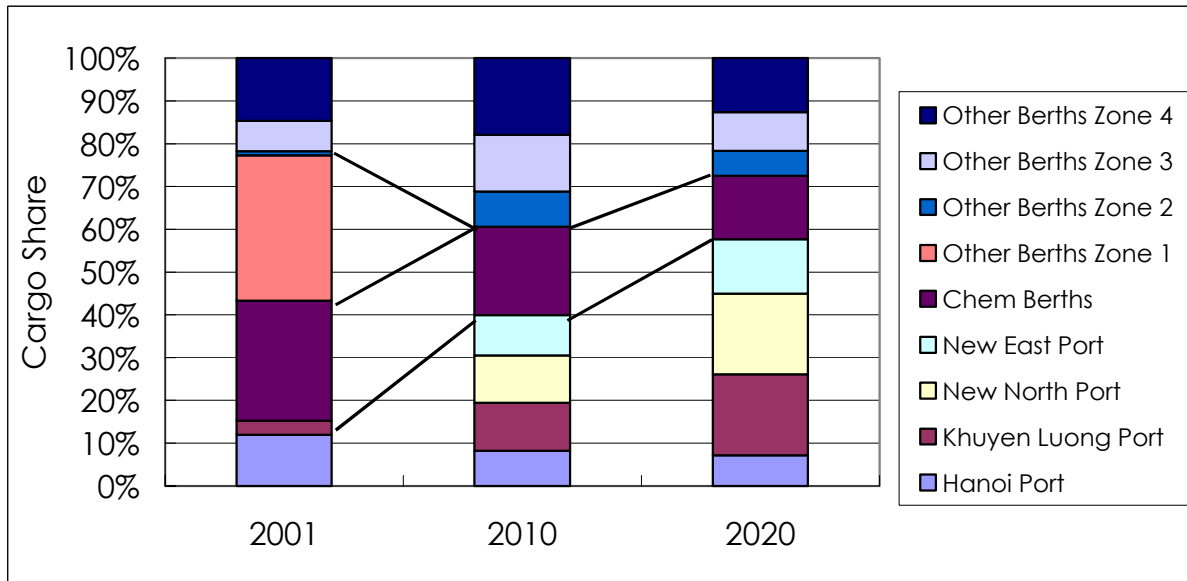
Note) Zone-1: Red River between Thang Long and Thanh Tri Bridges
 Zone-2: Red River upstream of Thang Long Bridge
 Zone-3: Red River downstream of Thanh Tri Bridge
 Zone-4: Duong River

Note) Cargo transfer from Zone-1 (2010): Zone-1(0%), Zone-2(30%), Zone-3(40%), to Zone-4(30%), outside HN(0%).
 Cargo transfer from Zone-1 (2020): Zone-1(0%), Zone-2(30%), Zone-3(40%), to Zone-4(30%), outside HN(0%).

Note) New East Port will handle another 32,000 TEUs in 2010 and 67,000 TEUs in 2020 of container.

Source) JICA Study Team

Figure 36.1.1 Cargo Throughput of Ports/Berths in Hanoi Segment (2001, 2010, 2020)



Note) Zone-1: Red River between Thang Long and Thanh Tri Bridges
 Zone-2: Red River upstream of Thang Long Bridge
 Zone-3: Red River downstream of Thanh Tri Bridge
 Zone-4: Duong River

Note) Cargo transfer from Zone-1 (2010): Zone-1(0%), Zone-2(30%), Zone-3(40%), to Zone-4(30%), outside HN(0%).
 Cargo transfer from Zone-1 (2020): Zone-1(0%), Zone-2(30%), Zone-3(40%), to Zone-4(30%), outside HN(0%).

Note) New East Port will handle another 32,000 TEUs in 2010 and 67,000 TEUs in 2020 of container.

Source) JICA Study Team

Figure 36.1.2 Cargo Share of Ports/Berths in Hanoi Segment (2001, 2010, 2020)

(1) Construction Material

Construction material accounts for 63% of the total throughput in 2001 and will increase to 6.6 million tons in 2010.

- a. Hanoi Port: To decrease current throughput by 10% taking into account the environmental preservation.
- b. Existing Berths: To increase current throughput by 30% taking into account the increase of handling efficiency.
- c. Khuyen Luong Port: To handle 40% of the remaining throughput (total minus Hanoi Port & existing berths).
- d. New North Port: To handle 50% of the remaining throughput (total minus Hanoi Port & existing berths).
- e. New East Port: To handle 10% of the remaining throughput (total minus Hanoi Port & existing berths).

(2) Cement

Cement accounts for 20% of the total throughput in 2001 and will increase to 2.2

million tons in 2010.

- a. Existing Berths: To increase current throughput by 10% taking into account the increase of handling efficiency.
- b. Hanoi Port: To handle 20% of the remaining throughput (total minus existing berths).
- c. Khuyen Luong Port: To handle 20% of the remaining throughput (total minus existing berths).
- d. New North Port: To handle 10% of the remaining throughput (total minus existing berths).
- e. New East Port: To handle 50% of the remaining throughput (total minus existing berths).

(3) Fertilizer

Although loading of fertilizer for the Southern and Middle region is expected once SRV (sea-cum-river vessel) of 1,000DWT is introduced to Corridor 4 (Hanoi - sea), forecasted total cargoes of SRV (0.5 million tons) is not enough to justify the investment for Corridor 4.

(4) Coal

Coal accounts for 8% of the total throughput in 2001 and will increase to 0.7 million tons in 2010.

- a. Hanoi Port: To decrease current throughput by 10% taking into account the environmental preservation.
- b. Bat Trang Bank: To stop handling because coal kilns will be replaced to gas kilns by 2010.
- c. Existing Berths: To increase current throughput by 30% taking into account the increase of handling efficiency.
- d. Khuyen Luong Port: To handle 40% of the remaining throughput (total minus Hanoi Port & existing berths).
- e. New North Port: To handle 10% of the remaining throughput (total minus Hanoi Port & existing berths).
- f. New East Port: To handle 50% of the remaining throughput (total minus Hanoi Port & existing berths).

(5) Paddy/Rice

Although unloading of paddy/rice from the Southern region is expected once SRV (sea-cum-river vessel) of 1,000DWT is introduced to Corridor 4 (Hanoi - sea), forecasted total cargoes of SRV (0.5 million tons) is not enough to justify the investment for Corridor 4.

(6) Others

Others accounts for 9% of the total throughput in 2001 and will increase to 0.7 million tons in 2010. Although unloading of others from the Southern region is expected once SRV (sea-cum-river vessel) of 1,000DWT is introduced to Corridor 4 (Hanoi - sea), forecasted total cargoes of SRV (0.5 million tons) is not enough to justify the investment for Corridor 4.

- a. Bat Trang Bank: To maintain current throughput.
- b. Existing Berths: To increase current throughput by 10% taking into account the increase of handling efficiency.
- c. Hanoi Port: To handle 20% of the remaining throughput (total minus Bat Trang Bank and existing berths).
- d. Khuyen Luong Port: To handle 20% of the remaining throughput (total minus Bat Trang Bank and existing berths).
- e. New North Port: To handle 10% of the remaining throughput (total minus Bat Trang Bank and existing berths).
- f. New East Port: To handle 50% of the remaining throughput (total minus Bat Trang Bank and existing berths).

(7) Container

Loading and unloading of container of 32 thousand TEUs from seaports in the Northern region is expected.

- a. New East Port: To handle total throughput because of proximity from Hai Phong and Cai Lan Ports.

36.1.2 Required length and depth of berth for major ports

Expected cargo throughput of ports/Berths in the Hanoi segment in 2010 is 10.2 million tons and 32 thousand TEUs (see **Table 36.1.1**). Cargoes at Berths shall be handle at the existing and transferred sites by improving only in terms of handling efficiency without extension of infrastructures.

In order to handle increasing cargoes at major ports of Hanoi, Khuyen Luong, New North and New East in the Hanoi segment, 1.5km of berth (additional length: 0.8km) will be required in 2010 assuming the average yearly throughput capacity to be 4,800 tons/m for bulk cargo, 2,400 tons/m for non-bulk cargo and 1,500 TEUs/m for container at these major ports (see **Table 36.1.2**).

Required water depth of berth is 2.5m below the 95% water level for vessels/barge trains deployed in the RRD.

Table 36.1.2 Required Length of Cargo Berth in 2010

Port	Required Length of Berth (m)										
	Construction Material	Cement	Fertilizer	Coal	Paddy/Rice	Others	Container	Total	Existing (Converted)	Additional	Additional Planned
Hanoi Port	82	83		43	0	19		227	403		
Khuyen Luong Port	162	83	0	26	0	19		290	131	159	160
New North Port	202	41		7		10		260		260	280
New East Port	40	206		33		48	21	350		350	360
Total	487	413	0	109	0	97	21	1,126	534	768	800

Note) 1. Throughput capacity

Bulk	Non-bulk	Container
(ton/m/y)	(ton/m/y)	(TEU/m/y)
4,800	2,400	1,500

2. Additional planned berth lengths are set as a multiple of 40m.

Source) JICA Study Team

36.1.3 Required handling equipment for major ports

In order to realize the above-mentioned average yearly throughput capacity at major ports (4,800 tons/m for bulk cargo, 2,400 tons/m for non-bulk cargo and 1,500 TEUs/m for container), various cargo handling equipment will be required. For bulk cargoes, quayside mobile crane, grab bucket, shovel loader, bulldozer and dump truck will be used and for non-bulk cargoes, quayside mobile crane, forklift, truck and pallet will be needed. Quayside mobile cranes can be utilized both for bulk cargo and non-bulk cargo through changing grab attachment of a crane. For containers, quayside mobile crane (heavy type), forklift (heavy type), tractor and trailer will be used.

In the four major ports in the Hanoi Segment, twenty two (22) 8tons (r=20m) type quayside mobile cranes, fourteen (14) grab buckets, thirty (30) 3tons type forklifts, nine (9) shovel loaders, five (5) bulldozers, twenty four (24) dump trucks and twenty (20) trucks will be required. In addition, in New East Port one (1) 30tons (r=20m) type quayside mobile cranes, two (2) 37tons type forklifts and three (3) tractors and trailers will be required for handling containers. (see **Table 36.1.3**)

Table 36.1.3 Required Handling Equipment for Major Ports (2010)

Port	Throughput (1000 tons)			Berth Length (m)			Required Handling Equipment										
							Quayside Mobile Crane		Grab Bucket	Forklift		Shovel Loader	Bulldozer	Dump Truck	Truck	Tractor + Trailer	Pallet
	Bulk	Non-bulk	Container (1000TEU)	Bulk	Non-bulk	Container	30tons (r=20m)	8tons (r=20m)	3cu.m 3.1x1.75	37tons	3tons	2 cu.m	5tons	10tons	7tons	container	wooden 1.2x1.8
Hanoi Port	599	245		125	102			5	3		6	2	1	5	4		700
Khuyen Luong Port	903	245		188	102			6	4		6	3	1	8	4		700
New North Port	1,002	122		209	51			5	5		3	3	2	8	2		400
New East Port	353	612	32	73	255	21	1	6	2	2	15	1	1	3	10	3	1,800
Total	2,857	1,223	32	595	510	21	1	22	14	2	30	9	5	24	20	3	3,600

Note) Required No. of units

Quay-side mobile crane:	0.8	units @ 40m for Bulk & Non-bulk
Quay-side mobile crane (heavy):	1.0	unit @ 40m for Container
Grab bucket:	1.0	unit @ Quay-side crane for Bulk
Forklift:	3.0	units @ Quay-side crane for Non-bulk
Forklift (heavy):	2.0	units @ Quay-side crane for Container
Shovel loader:	3.0	units @ 1 million tons of Bulk
Bulldozer:	1.0	unit @ 1 million tons of Bulk
Dump truck:	2.0	units @ Quay-side crane for Bulk
Truck:	2.0	units @ Quay-side crane for Non-bulk
Tractor & Trailer:	3.0	units @ Quay-side mobile crane for Container
Pallet:	3,000	units @ 1 million tons of Non-bulk

Source) JICA Study Team

36.1.4 Required land space for major ports

In a major port, space for storage yard (construction material and coal), warehouse, road, utility and reserve area is required. And in a port handling containers, ICD (inland container/clearance depot) consisting of CY (container yard), CFS (container freight station) and DC (distribution center) is also needed. Total area required for major ports in 2010 will be 20ha (Hanoi Port: 3ha, Khuyen Luong Port: 4ha, New North Port: 4ha and New East Port: 8ha (including 3.2ha for ICD) (see **Table 36.1.4**).

Table 36.1.4 Required Land Space for Major Ports (2010)

Port	Throughput (1000 tons)				Berth Length (m)				Required Land Space							
									Storage Yard		Warehouse	ICD (CY) (CFS) (DC)	Road	Utility	Reserve	Total
	Construction Material	Coal	Non-bulk	Container (1000 TEU)	Construction Material	Coal	Non-bulk	Container	Construction Material	Coal						
Hanoi Port	395	204	245		82	43	102		5,726	5,330	4,255		10,207	6,805	1,701	34,023
Khuyen Luong Port	776	127	245		162	26	102		11,253	3,306	4,255		13,055	8,703	2,944	43,517
New North Port	971	32	122		202	7	51		14,066	827	2,128		11,690	7,793	2,463	38,966
New East Port	194	158	612	32	40	33	255	21	2,813	4,133	10,638	32,000	15,734	10,489	8,639	84,446
Total	2,336	521	1,223	32	487	109	510	21	33,859	13,595	21,275	32,000	50,686	33,790	15,747	200,952

Note) Calculating formula: $A = (N / D) \times p \times u \times t / (w \times e)$ for Storage yard and Warehouse

A: Required area (sq.m)			
N: Annual cargo-wise throughput (tons/year)			
D: Annual available working days (days)	345	345	345
p: Peaking factor to daily average	1.5	1.5	1.5
u: Area use ratio	0.6	0.6	0.6
t: Dwelling time (days)	10.0	10.0	10.0
w: Cargo weight per space (tons/sq.m)	3.6	2.0	3.0
e: Area efficient ratio	0.5	0.5	0.5

Note) ICD area: 1,000 sq.m per 1000TEU port throughput

Note) Total area: 150 m Depth at least is required as a distance between waterfront and the backward port limit in addition to ICD.

Note) Road space: 30% of total area

Note) Utility space: 20% of total area. Utility space consist of office, workshop, park, restaurant, shop, rest spot, etc.

Source) JICA Study Team

36.1.5 Required number of access road lanes for major ports

Access roads between major ports and dyke road or Ring Road No.3 will have to be constructed. The number of access road lanes is decided based on the traffic volume, that is, the maximum hourly traffic. Two lanes will be required for all major ports in 2010 (see **Table 36.1.5**).

Table 36.1.5 Required number of access road lanes for major ports (2010)

Port	Throughput (1000 tons)			Maximum Hourly Traffic of Access Road							No. of Access Road Lanes
				Throughput Related Traffic				Other Traffic			
	Bulk	Non-bulk	Container (1000 TEU)	Bulk	Non-bulk	Container	Total	(Mixed Ratio)	Traffic	Total	
Hanoi Port	599	245		72	37		109	30%	33	142	2
Khuyen Luong Port	903	245		109	37		146	20%	29	175	2
New North Port	1,002	122		121	18		140	10%	14	153	2
New East Port	353	612	32	43	92	14	149	30%	45	194	2
Total	2,857	1,223	32	345	185	14	544		121	665	

Note) Calculating formula: $T = (N / D / 24) \times pd \times ph / (w \times l)$

T:				Maximum hourly traffic of access road
N:				Annual cargo-wise throughput (tons/year, TEU/year)
D:	345	345	345	Annual available working days (days)
pd:	1.8	1.8	1.8	Peaking factor to daily average
ph:	2.5	2.5	2.5	Peaking factor to hourly average
w:	9.0	6.0	1.5	Unit load per truck (ton, TEU)
l:	0.5	0.6	0.8	Ratio of loaded truck

Note) Design standard traffic volume for double lanes is 650 vehicles/hour.

Source) JICA Study Team

36.1.6 Required elevation of port facilities for major ports

Crown elevation of berths in major ports shall be set at a level slightly higher than Warning Water Level III (+11.5m at Hanoi Station). Ground elevation of roads, storage yards and warehouses shall be set at a level higher than that of berths in order to avoid traffic blockade and/or degradation of commodity value due to flooding. Proposed elevation for each facility is shown in **Table 36.1.6** and **Figure 36.1.3**.

Table 36.1.6 Required Elevation of New Port Facilities

Port	Water Level when WWL-III at Hanoi Station	berth	Road	Storage Yard (CY)	Warehouse (CFS-DC)
		0.5m higher than the Water Level	1.0m higher than the Water Level	1.0m higher than the Water Level	2.0m higher than the Water Level
Hanoi Port	+11.0m	+11.5m	+12.0m	+12.0m	+13.0m
Khuyen Luong Port	+10.6m	+11.1m	+11.6m	+11.6m	+12.6m
New North Port	+11.8m	+12.3m	+12.8m	+12.8m	+13.8m
New East Port	+10.5m	+11.0m	+11.5m	+11.5m	+12.5m

Note) WWL-III at Hanoi Station is +11.5m.

Note) Water levels at Hanoi, Khuyen Luong and New North Ports when WWL-III at Hanoi Station are set based on the water level survey data on the 8th August 2002 conducted by TEDI-port.

Note) Water level at New East Port when WWL-III at Hanoi Station is set based on the H5% water levels of Hanoi Station and New East Port calculated by interpolating method using the data at Thuong Cat and Ben Ho Stations.

Source) JICA Study Team

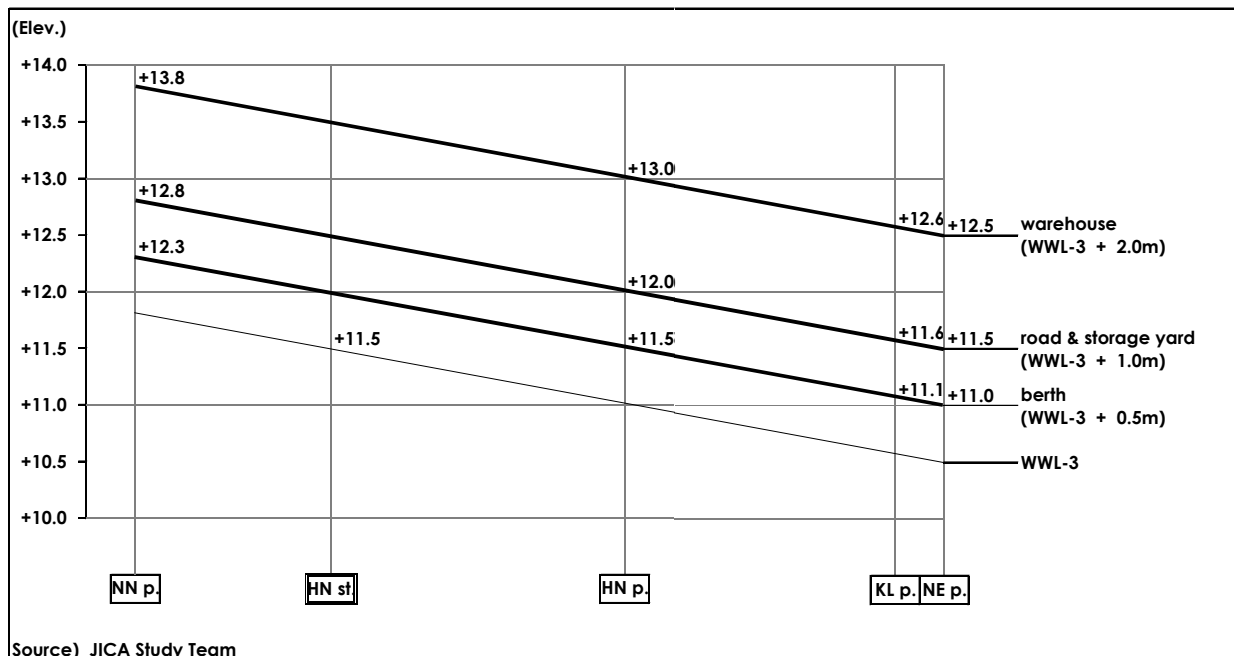
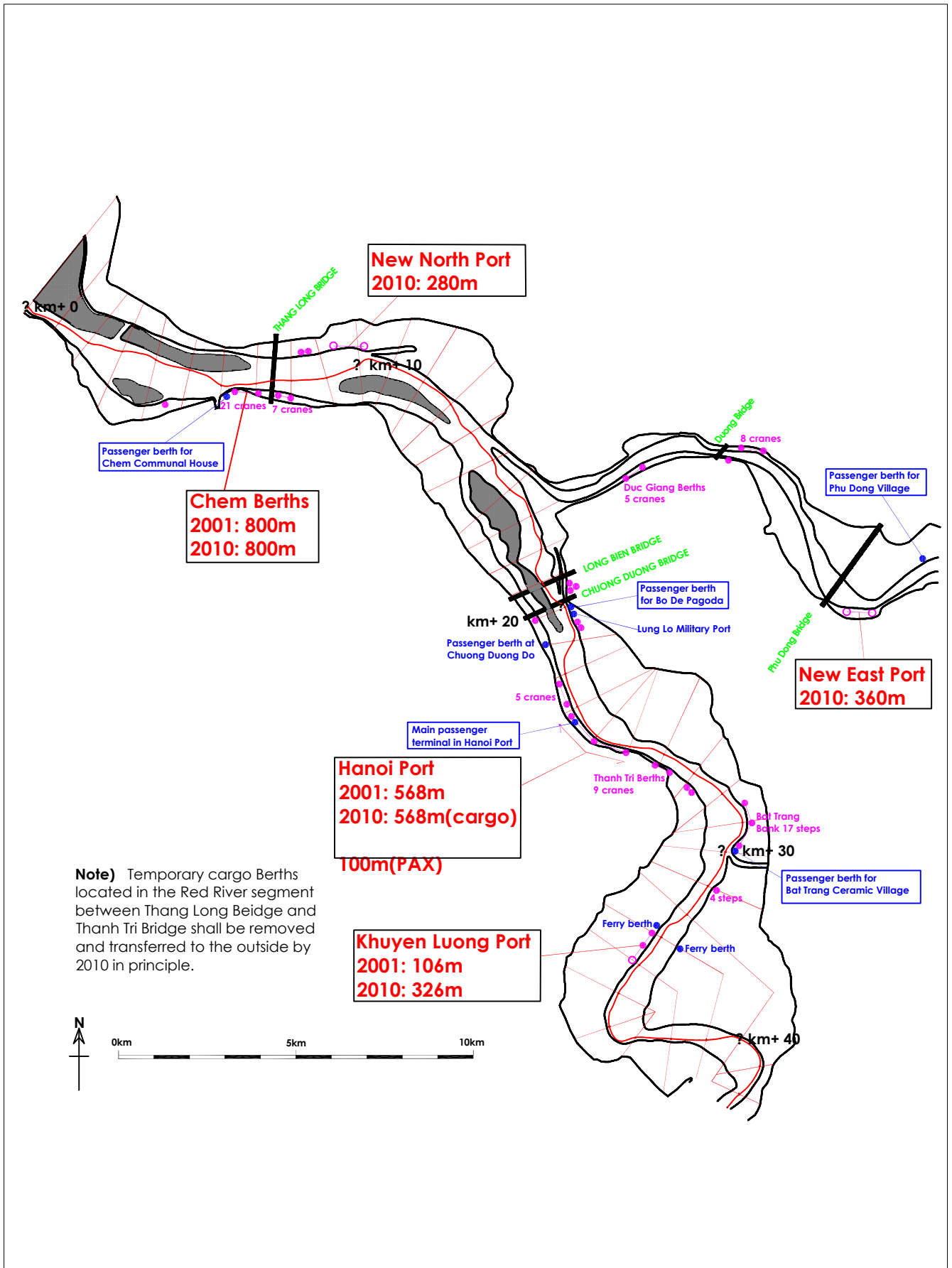


Figure 36.1.3 Proposed Elevation of Port Facilities



Note) Kilometrage goes downstream along the talweg of January 2002.
Source) JICA Study Team

Figure 36.1.4 Location of Ports/Berths (2010)

36.2 Hanoi Port

Development direction of Hanoi Port is proposed as follows:

- Hanoi Port shall handle non-bulk and bulk cargoes, and serve mainly for Citadel districts. Bulk cargo handling, however, shall be decreased taking into account environmental preservation.
- Length of newly planned berths shall be 100m for passenger boats.
- Out-dated handling equipment shall be replaced.
- Road of low elevation shall be improved.

Short-term development plan of Hanoi Port is shown in **Table 36.2.1** and **Figure 36.2.1**.

Table 36.2.1 Short-term Development Plan of Hanoi Port (2010)

Item	Description
Port Owner/Investor	MOT (small-scale investment: port operator)
Port Operator	Hanoi Port under NOWATRANCO
Facing IW Corridor	Corridor 1 (Quang Ninh - Hai Phong - Hanoi - Viet Tri) Corridor 4 (Sea - Hanoi)
Hinterland	Citadel districts
Design Capacity	0.8 million tons (Bulk: 0.6, Non-bulk: 0.2)
Length of Waterfront	1.8km (Additional bank protection upstream of T4: 900m)
Berth Property	Existing: 568m for cargo (partial repair work is needed at berths No.4-6) Newly planned: 100m@-2.0m (+12.0m) for passenger
Land Area	Total: 3ha (Storage yard: 1.1ha, Warehouse: 0.4ha for port related use and 0.9ha for other use)
Handling Equipment	Quayside mobile crane: 5 units (8tons) Grab bucket: 3 units (3cu.m), Forklift: 6 units (3tons) Shovel loader: 2 unit (2cu.m), Bulldozer: 1 unit (5tons) Dump Truck: 5 units (10tons), Truck: 4 units (7tons) Pallet: 700 units (1.2mx1.8m)
Passenger Terminal	1 unit (see Section 36.6)
Access Road	2 lanes to be linked to Bank road (for Ring Road No.2) Planned: Elevation improvement to +12.0m (L=2.6km)

Source) JICA Study Team

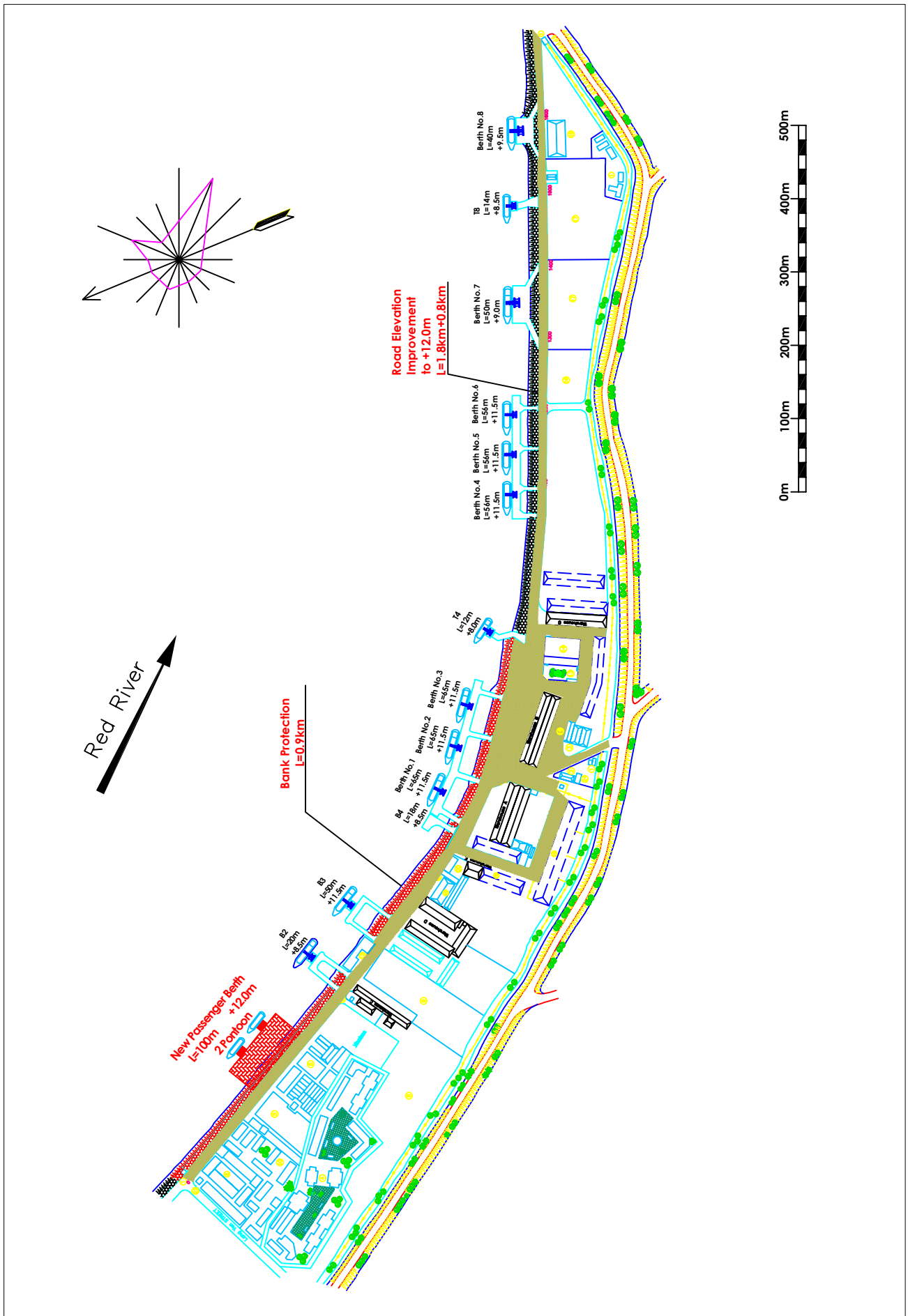


Figure 36.2.1 Short-term Development Plan of Hanoi Port (2010)

36.3 Khuyen Luong Port

Development direction of Khuyen Luong Port is proposed as follows:

- Khuyen Luong Port shall handle bulk and non-bulk cargoes, and serve mainly for districts located at the right bank of Red River as well as a part of Ha Tai Province making use of its excellent location within road network.
- Length of newly planned berths shall be 160m.
- Extension area for port facilities shall be allocated at downstream side of existing facilities.

Short-term development plan of Khuyen Luong Port is shown in **Table 36.3.1** and **Figure 36.3.1**.

Table 36.3.1 Short-term Development Plan of Khuyen Luong Port (2010)

Item	Description
Port Owner/Investor	MOT (small-scale investment: port operator)
Port Operator	Khuyen Luong Port, Vietnam Sea & River Transport Corporation under VINALINES
Facing IW Corridor	Corridor 1 (Quang Ninh - Hai Phong - Hanoi - Viet Tri) Corridor 4 (Sea - Hanoi)
Hinterland	Primary: Thanh Tri District Secondary: Citadel districts and Ha Tay Province SRV: whole city and Ha Tay Province
Design Capacity	1.1 million tons (Bulk: 0.9, Non-bulk: 0.2)
Length of Waterfront	0.8km
Berth Property	Existing: 106m +60m (completed before 2010) (2 mooring buoys be completed before 2010) Newly planned: 160m (+11.0m) @ -2.5m
Land Area	4ha (Storage yard: 1.5ha, Warehouse: 0.4ha) (Newly planned Storage yard: 0.5ha, Warehouse:0.5ha)
Handling Equipment	Quay-side mobile crane: 6 units (8tons) Grab bucket: 4 units (3cu.m), Forklift: 6 units (3tons) Shovel loader: 3 units (2cu.m), Bulldozer: 1 units (5tons) Dump Truck: 8 units (10tons), Truck 4units (7tons) Pallet: 700 units (1.2mx1.8m)
Access Road	2 lanes to be linked to Bank road (for Ring Road No.3) Planned: Access road improvement (L=1.9km)

Source) JICA Study Team

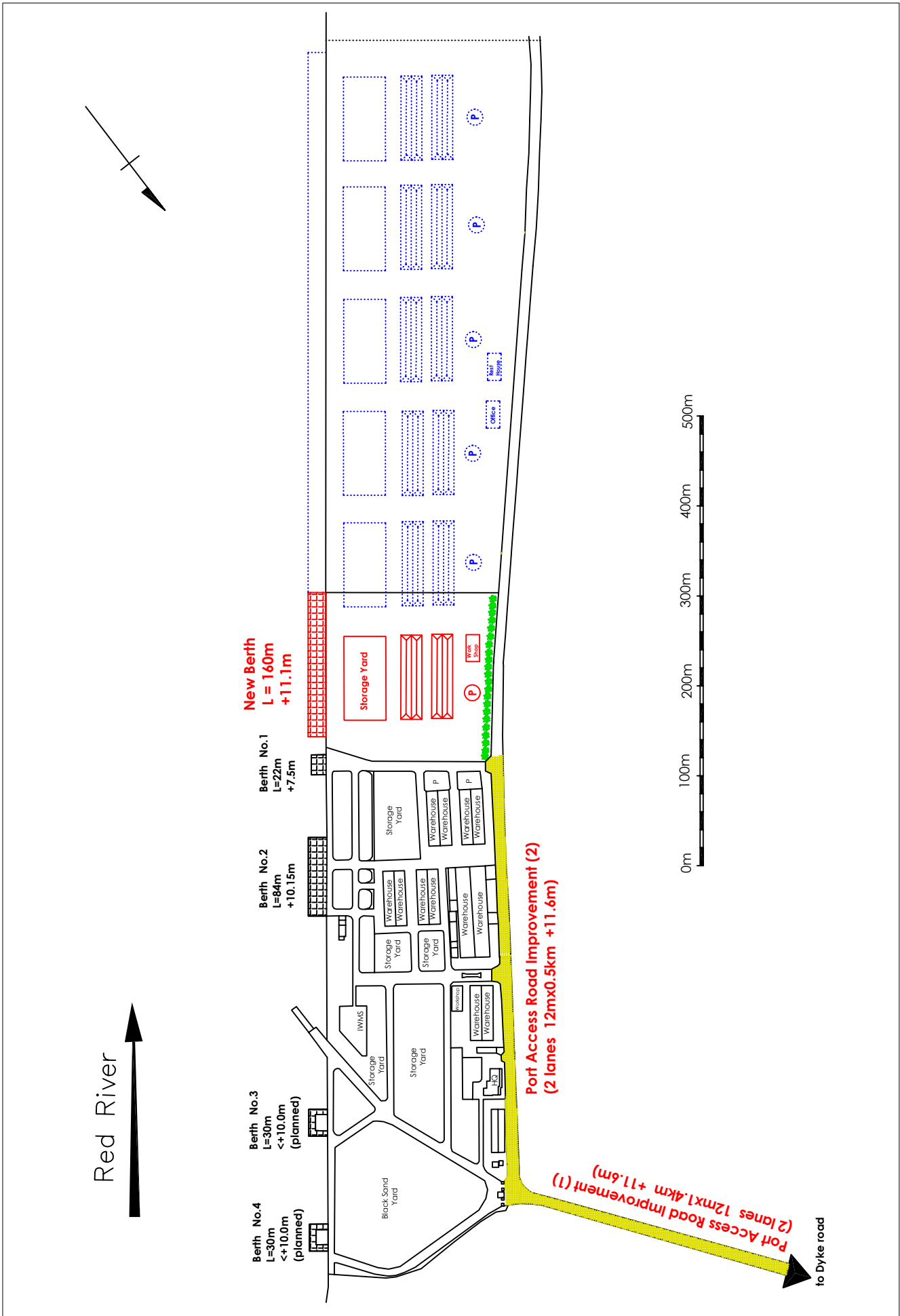


Figure 36.3.1 Short-term Development Plan of Khuyen Luong Port (2010)

36.4 New North Port

Development direction of New North Port is proposed as follows:

- New North Port shall handle bulk and non-bulk cargoes, and serve mainly for Dong Anh and Soc Son Districts in order to contribute to urban and industrial development expected in these districts.
- Required length of berth shall be 280m.
- Development area for port facilities shall be allocated at the left bank of the Red River, and between Thang Long Bridge and future Nhat Tan Bridge (Hai Boi Commune, upstream of the existing groin KT-1).

Short-term development plan of New North Port is shown in **Table 36.4.1** and **Figure 36.4.1**.

Table 36.4.1 Short-term Development Plan of New North Port (2010)

Item	Description
Port Owner/Investor	MOT (small-scale investment: port operator)
Port Operator	Company (Not yet decided)
Facing IW Corridor	Corridor 1 (Quang Ninh - Hai Phong - Hanoi - Viet Tri)
Hinterland	Primary: Dong Anh and Soc Son Districts Secondary: Gia Lam District
Design Capacity	1.1 million tons (Bulk: 1.0, Non-bulk: 0.1)
Length of Waterfront	0.3km
Berth Property	280m@-2.5m, Crown elevation: +12.3m
Land Area	4ha (Storage yard: 1.5ha, Warehouse: 0.2ha)
Handling Equipment	Quayside mobile crane: 5 units (8tons) Grab bucket: 5 units (3cu.m), Forklift: 3 units (3tons) Shovel loader: 3 units (2cu.m), Bulldozer: 2 units (5tons) Dump Truck: 8 units (10tons), Truck: 2 units (7tons) Pallet: 400 units (1.2mx1.8m)
Access Road	2 lanes to be linked to the Connecting Road between Thang Long Bridge North Exit and Highway No.3

Source) JICA Study Team

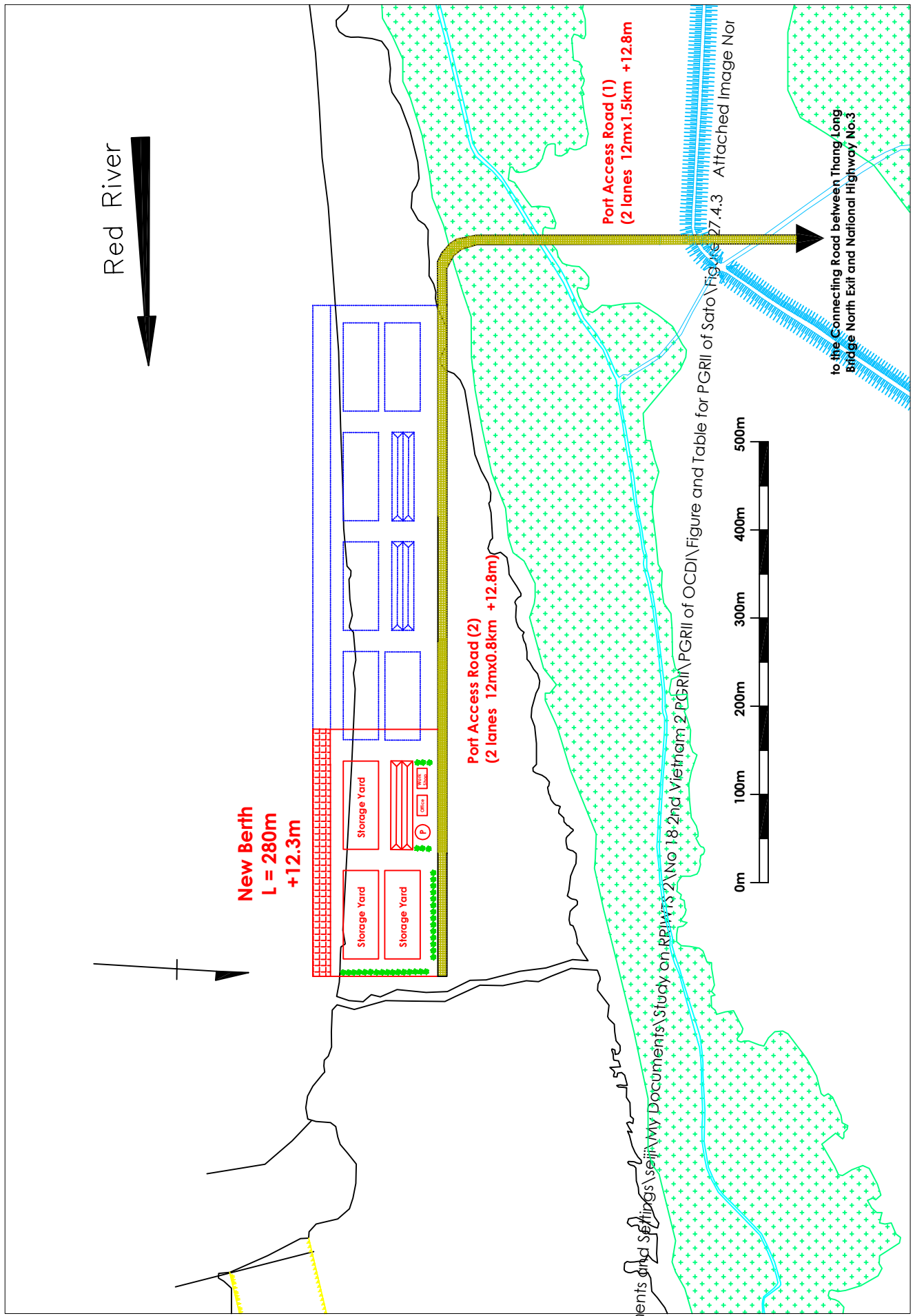


Figure 36.4.1 Short-term Development Plan of New North Port (2010)

36.5 New East Port

Development direction of New East Port is proposed as follows:

- New East Port shall handle non-bulk and bulk cargoes as well as container from the Northern seaports of Cai Lan and Hai Phong, and serve mainly for Gia Lam District (container: for whole city) making full use of its excellent location as a primary gateway of Hanoi from the Northern seaports of Cai Lan and Hai Phong.
- Required length of berth shall be 360m.
- Development area for port facilities shall be allocated at the left bank of the Duong River, and downstream of Phu Dong Bridge.

Short-term development plan of New East Port is shown in **Table 36.5.1** and **Figure 36.5.1**.

Table 36.5.1 Short-term Development Plan of New East Port (2010)

Item	Description
Port Owner/Investor	MOT (small-scale investment: port operator)
Port Operator	Not yet decided (candidate: VINALINES+NOWATRANCO)
Facing IW Corridor	Corridor 1 (Quang Ninh - Hai Phong - Hanoi - Viet Tri)
Hinterland	Primary: Gia Lam District Secondary: Soc Son, Dong Anh and Thanh Tri Districts Container: whole city
Design Capacity	1.0 million tons (Bulk: 0.4, Non-bulk: 0.6) Container: 32 thousand TEU
Length of Waterfront	0.4km
Berth Property	360m@-2.5m, Crown Elevation: +11.0m
Land Area	8ha (Storage yard: 0.7ha, Warehouse: 1.1ha, ICD (CY+CFS+DC): 3.2ha)
Handling Equipment	Quayside mobile crane: 7 units (1@30tons+6@8tons) Grab bucket: 2 units (3cu.m) Forklift: 17 units (2@37tons+15@3tons) Shovel loader: 1 units (2cu.m), Bulldozer: 1 units (5tons) Dump Truck: 3 units (10tons), Truck: 10Units (7tons) Tractor & Trailer: 3 units Pallet: 1,800 units (1.2mx1.8m)
Access Road	2 lanes to be linked to Highway No.1 and Dyke road

Source) JICA Study Team

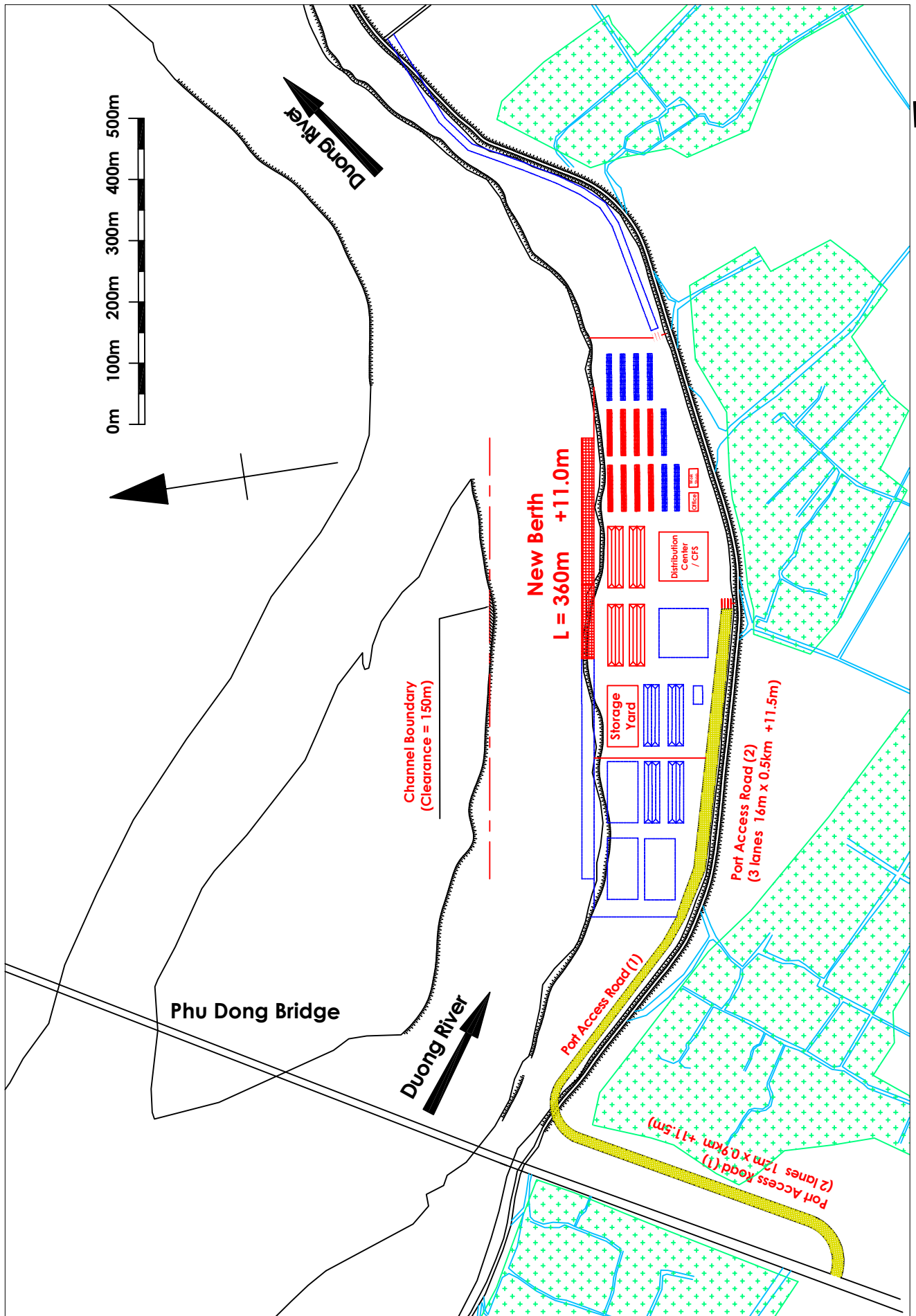


Figure 36.5.1 Short-term Development Plan of New East Port (2010)

36.6 New passenger berth

Development direction of new main passenger terminal is proposed as follows:

- New passenger terminal shall serve for passenger boats and their passengers plying Hanoi - Hun Yen - Thai Binh and Hanoi - Viet Tri - Phu Tho as well as cruising boats and their passengers.
- Development area for new passenger terminal shall be allocated at northern part of Hanoi Port.

Short-term development plan of new passenger terminal is shown in **Table 36.6.1** and **Figure 36.6.1**.

Table 36.6.1 Short-term Development Plan of New Passenger Terminal (2010)

Item	Description
Port Operator	Not yet decided (candidate: HNPC)
Location	Northern part of Hanoi Port
Designed Capacity	0.5 million PAX (+ 0.1 million PAX for tourism)
Length of Waterfront	100m
Length of Berth	100m (2 pontoon)
Total Area	0.7ha
Passenger Terminal Building	0.1ha
Parking	0.3ha for bus, car and motorbike
Park & Open Space	0.3ha for passenger and others
Access to the Berth	Bus

Source) JICA Study Team

In addition to the main passenger terminal, the following complement passenger berths provided with small pontoons at major tourist spots in the Hanoi segment are proposed for tourist purpose.

- Chem (Red km+6 Right bank)
- Bo De (Red km+20 Left bank)
- Bat Trang (Red km+30 Left bank)
- Phu Dong (Duong km+16 Left bank)

