

a. Open type engine life boat (FRP)	One
b. Davit for life boat (for the survival training facility)	One set
c. Jumping platform (for the survival training facility)	One set
d. Video system (for the reformation of existing boat house)	One set

### 3-3-8 Basic Design Drawings

The outlines of the proposed facilities and the basic design drawings are shown below.

#### a. Cutter Training Facility

Total length of the jetty;	310 m (including 63 m for the berthing area and 10m for turning platform)
Crown height;	D.L. +4.3 m
Crown width;	5.0 m
Structural type;	Steel pipe pile type jetty
Auxiliary facilities;	Turning platform for tractor and vehicle, mooring bits and rings, light beacon, security lights, gate, handrail, curbing, water supply, Jacob's ladder hooks, etc.

#### b. New Boat House;

Area;	480 m <sup>2</sup> (20.0 m x 24.0 m)
Capacity;	Four boats (cutter boats and life boats)
Structural type;	Reinforced concrete structure (columns, beams, roof and floor)
	Brick construction (walls)
Auxiliary facilities;	Hull bottom repair Spot (84 m <sup>2</sup> )
	Overhead crane (manual operation)
	Storage, power and water supply, etc.

#### c. Survival Training Facility

Pool area;	625 m <sup>2</sup> (25.0 m x 25.0 m)
Pool depth;	-1.5 m and -4.0 m
Apron width;	7.0 m
Capacity;	One class (35 - 40 students)
Structural type;	Reinforced concrete structure (pile foundation)
Auxiliary facilities	Dressing room, shower/toilet, storage, water purifier device, water supply facility, security light, etc.

**d. Reformation of the Existing Boat House**

Area; 303.75 m<sup>2</sup> (13.5 m x 22.5 m for roof)  
Capacity; One class (35 to 40 students)  
Auxiliary facilities; Lighting, power supply, toilet, etc.

**e. Cutter Boat Transportation Facility**

Crane; To be built at the tip of the cutter training facility with a roof, and to be manually operated for lifting and launching the cutter boats and the life boats.

Approach road; Road connecting the cutter training facility and the new boat house

Rails; Provided on the approach road and the cutter training facility

Transport facility; Tractor, boat carrier, suspender, boat racks

**f. Equipments**

Open type engine life boat (FRP)

Davit for life boat (for the survival training facility)

Jumping platform (for the survival training facility)

Video system (for the reformation of the existing boat house)



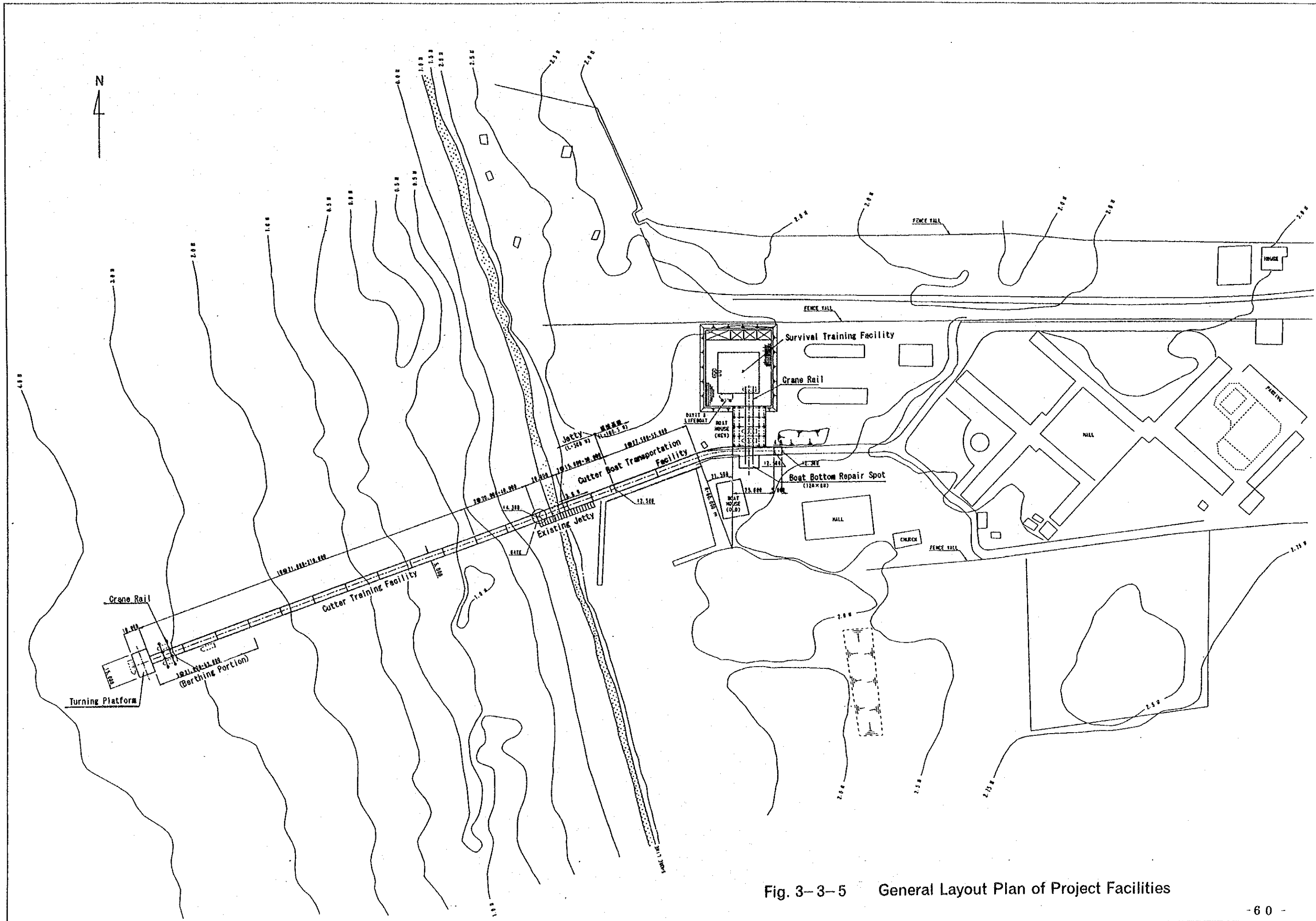
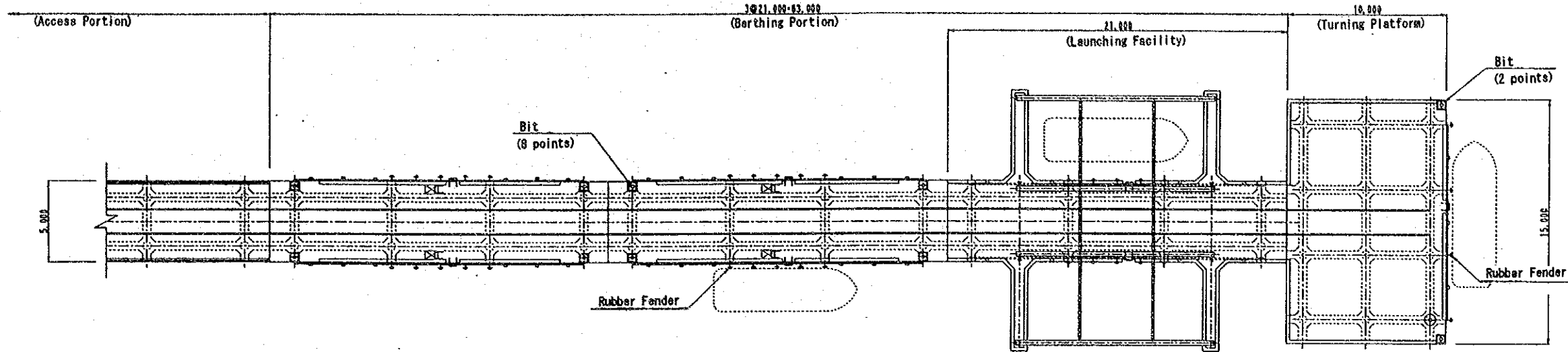


Fig. 3-3-5 General Layout Plan of Project Facilities

Top Portion of Cutter Training Facility

Plan



Side View

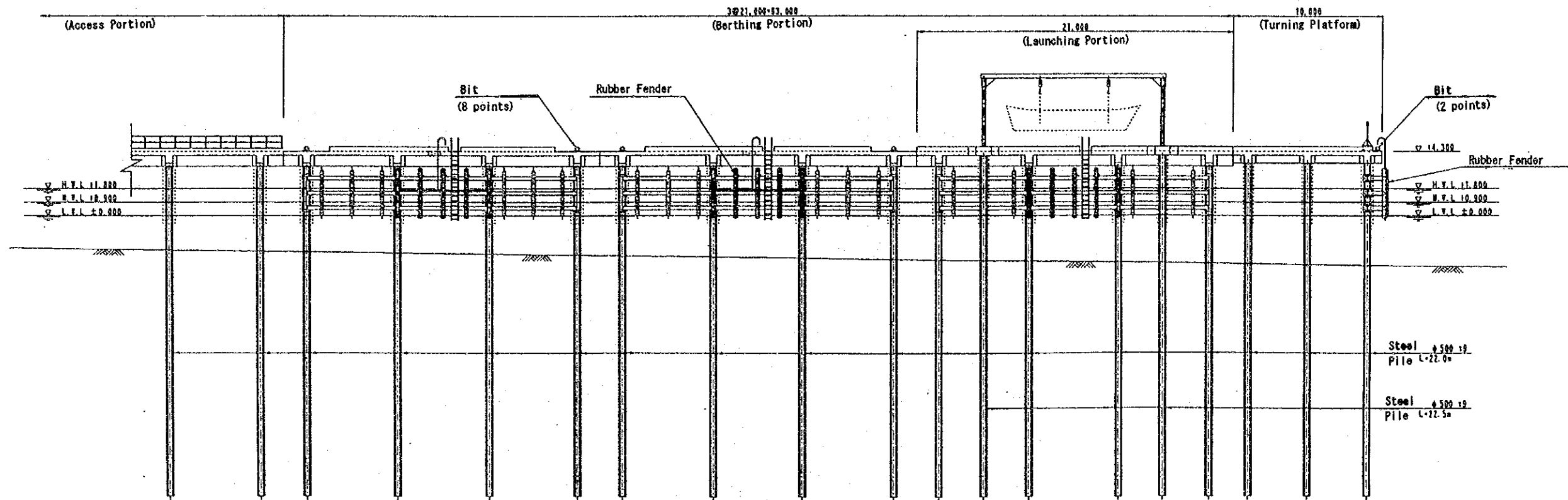
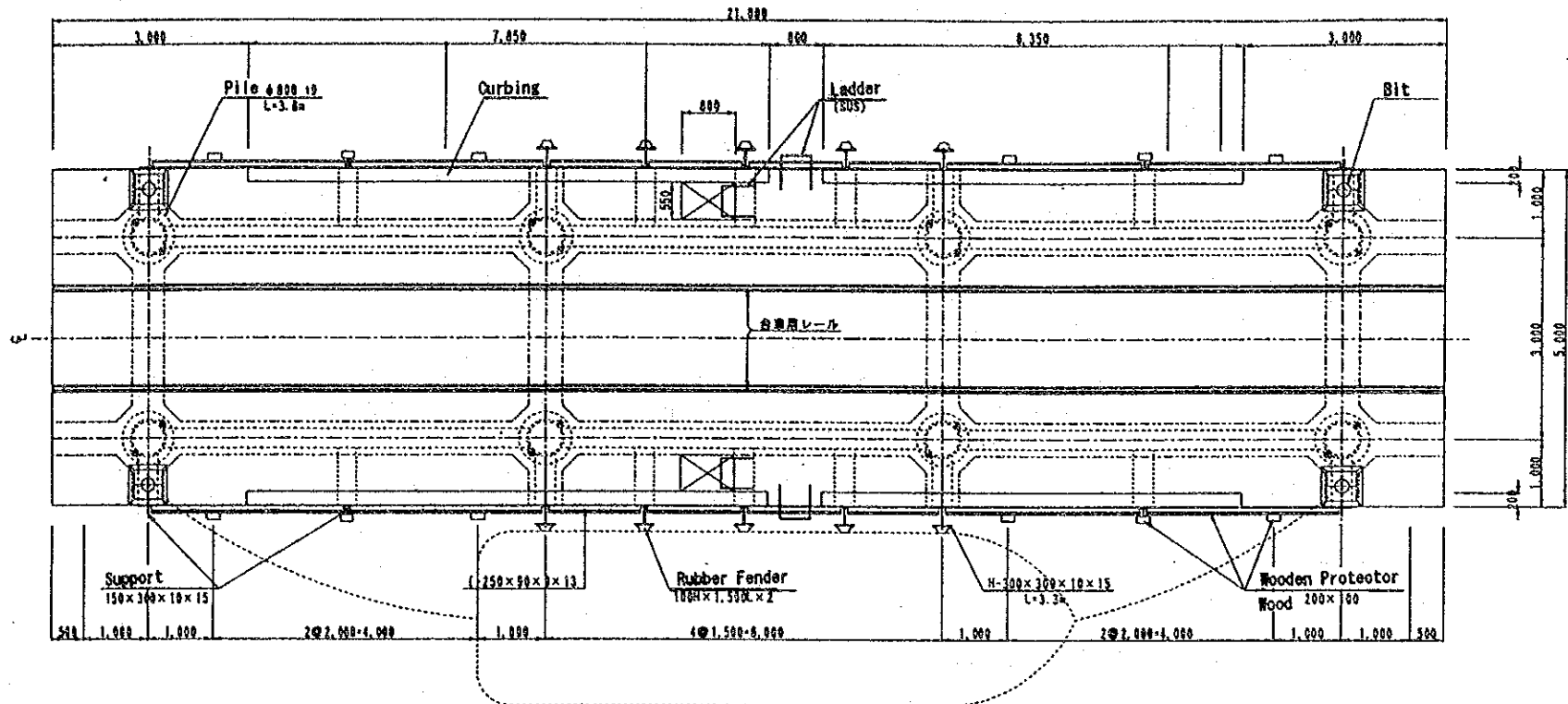


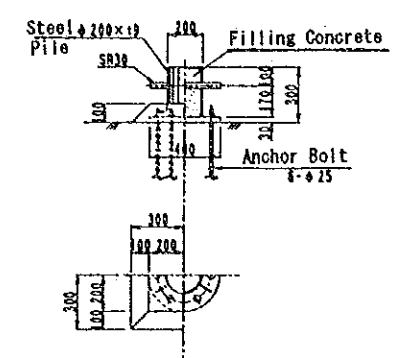
Fig. 3-3-6(1) Plan of Cutter Training Facility(Top Portion)

Cutter Training Facility (Berthing Portion)

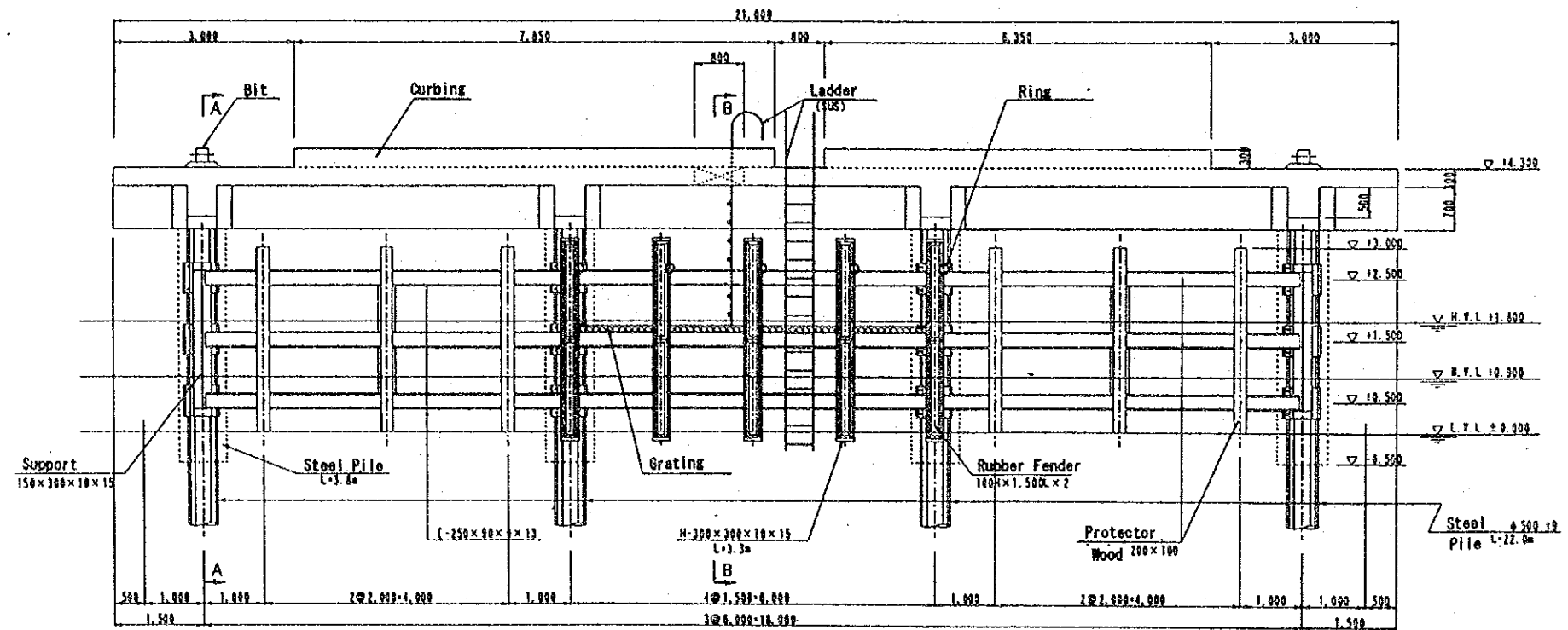
Plan



Bit



Side View



Section

(Sect. A-A) (Sect. B-B)

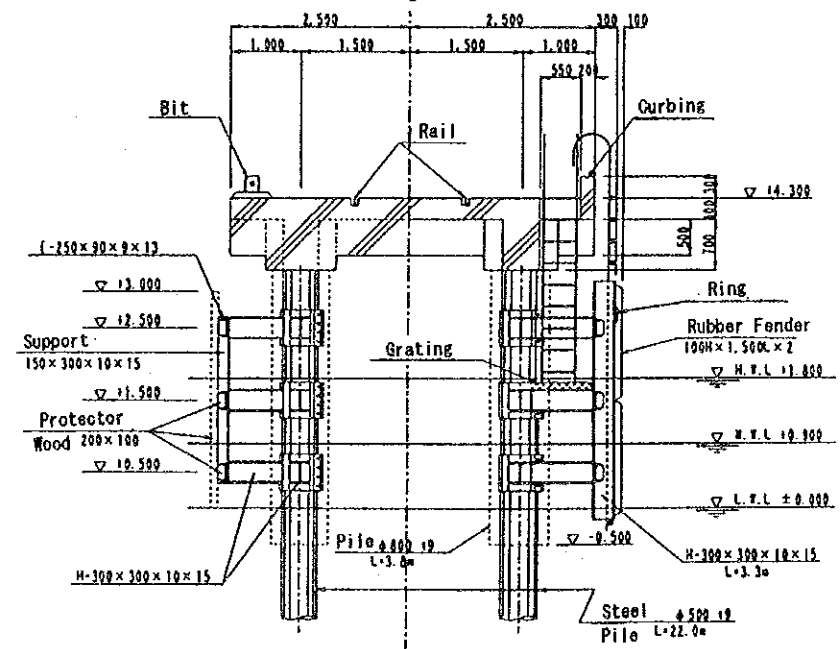
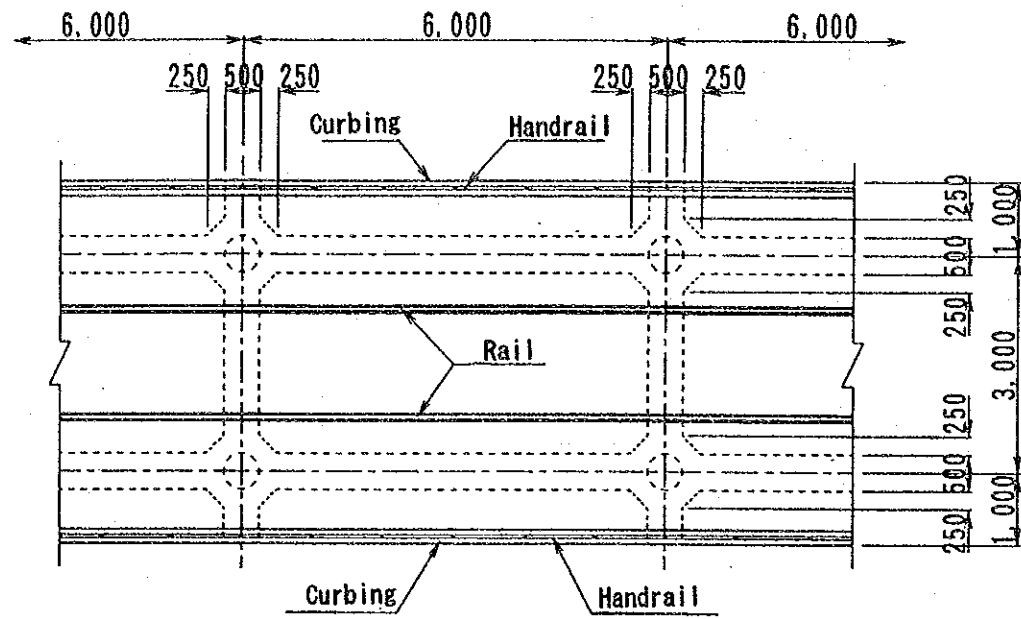


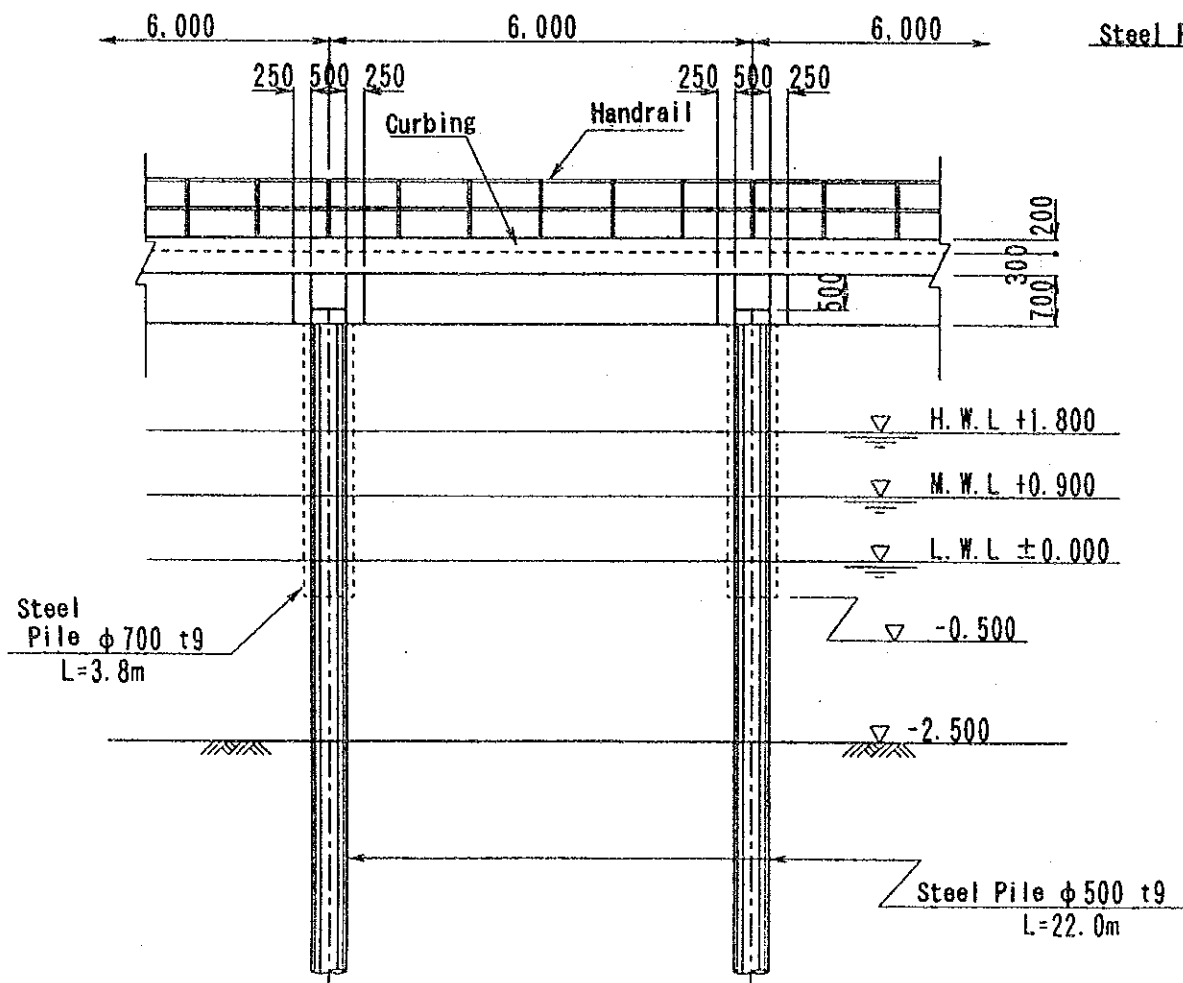
Fig. 3-3-6(2) Plan of Cutter Training Facility(Berthing Portion)

# Cutter Training Facility (Access Portion)

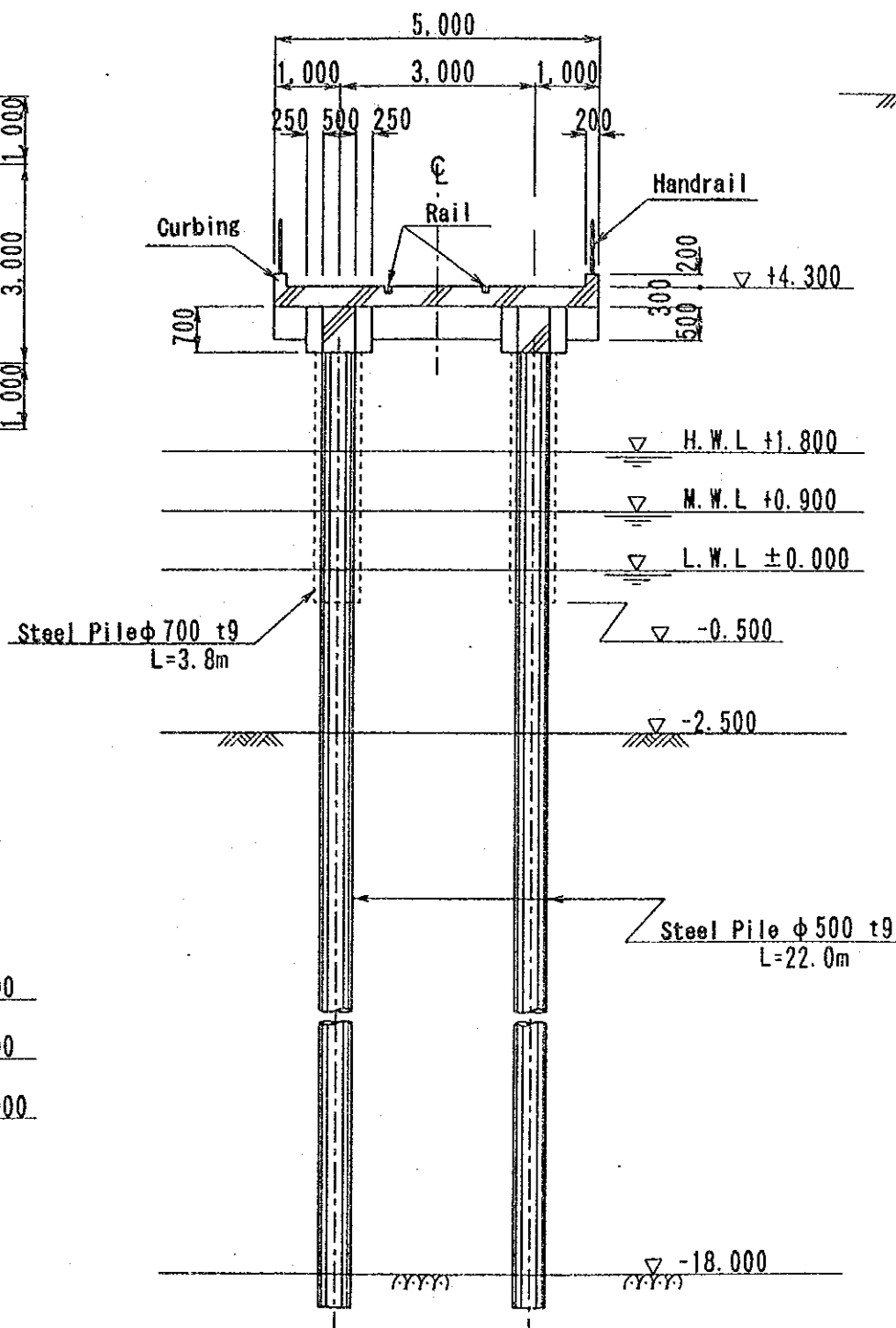
## Plan



## Side View



## Section



## Road

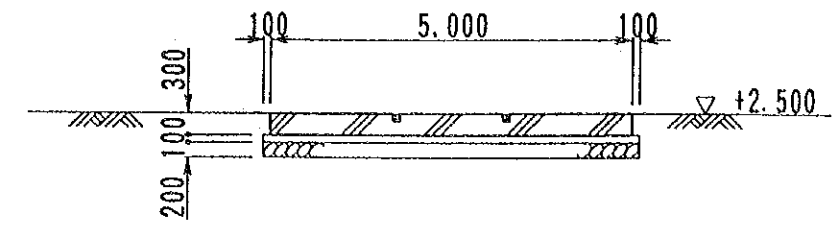


Fig. 3-3-6(3) Plan of Cutter Training Facility (Access Portion)

Cutter Training Facility(Launching Facility)

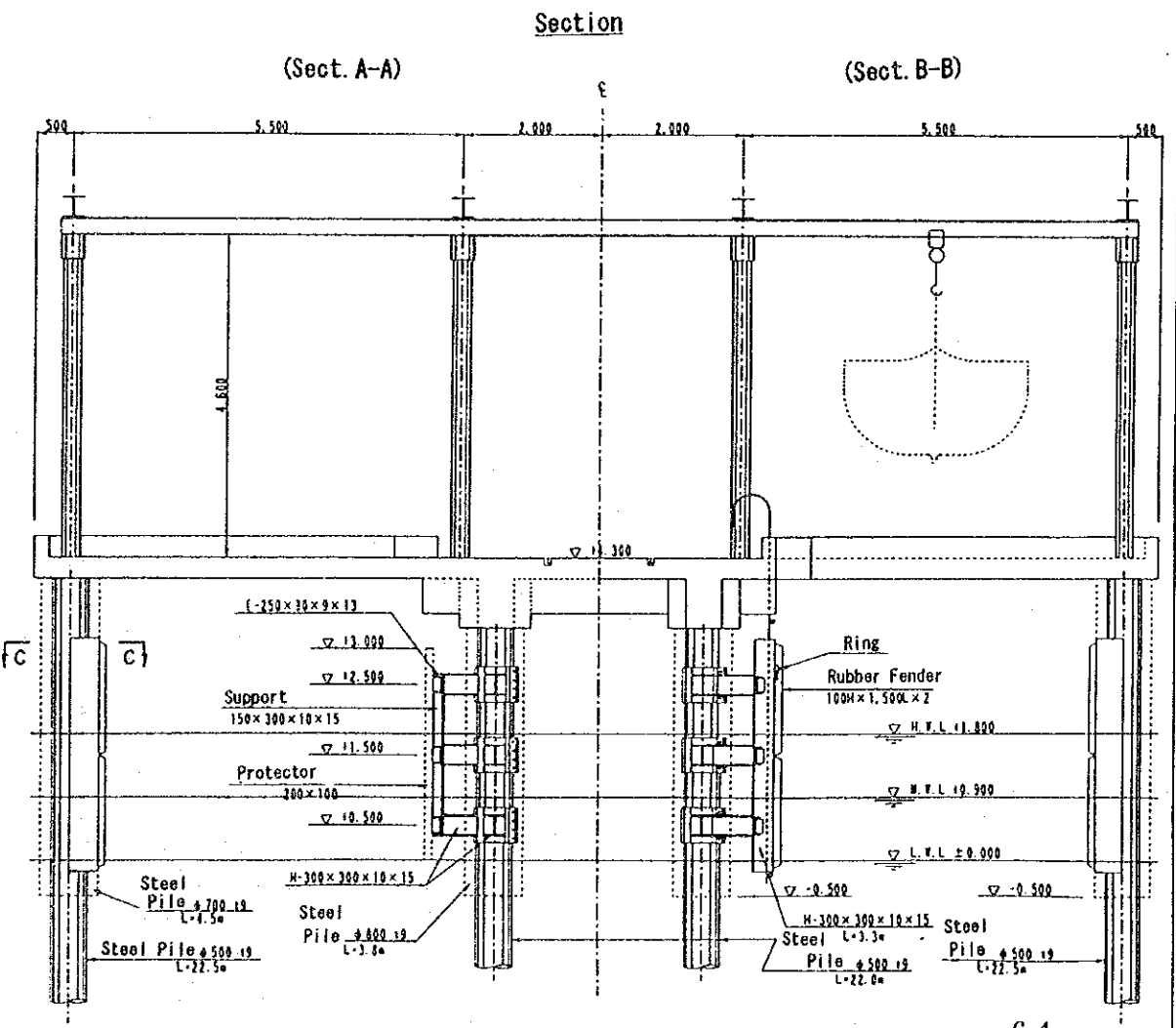
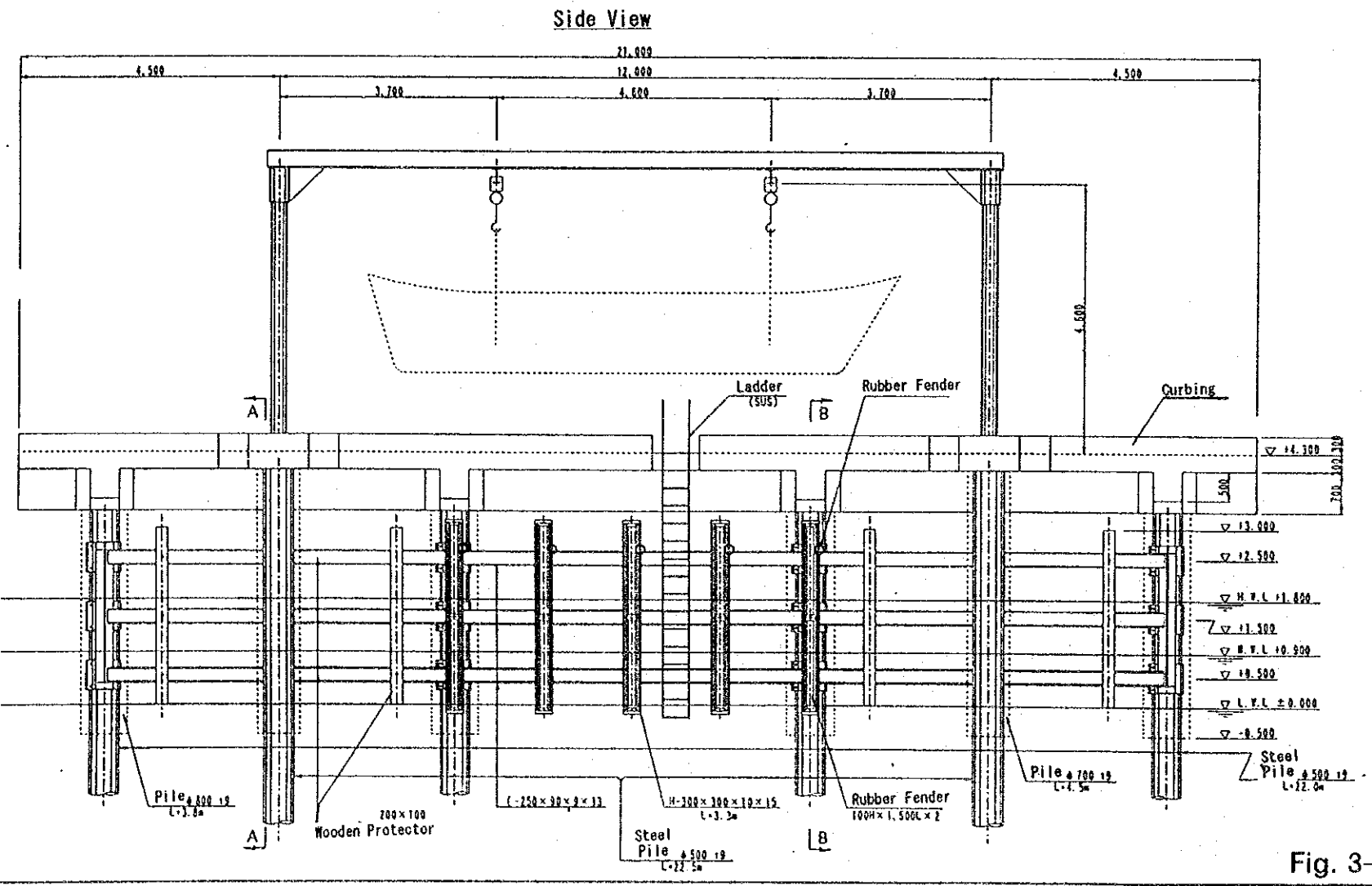
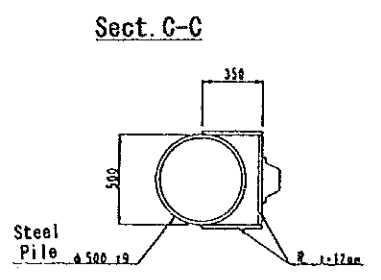
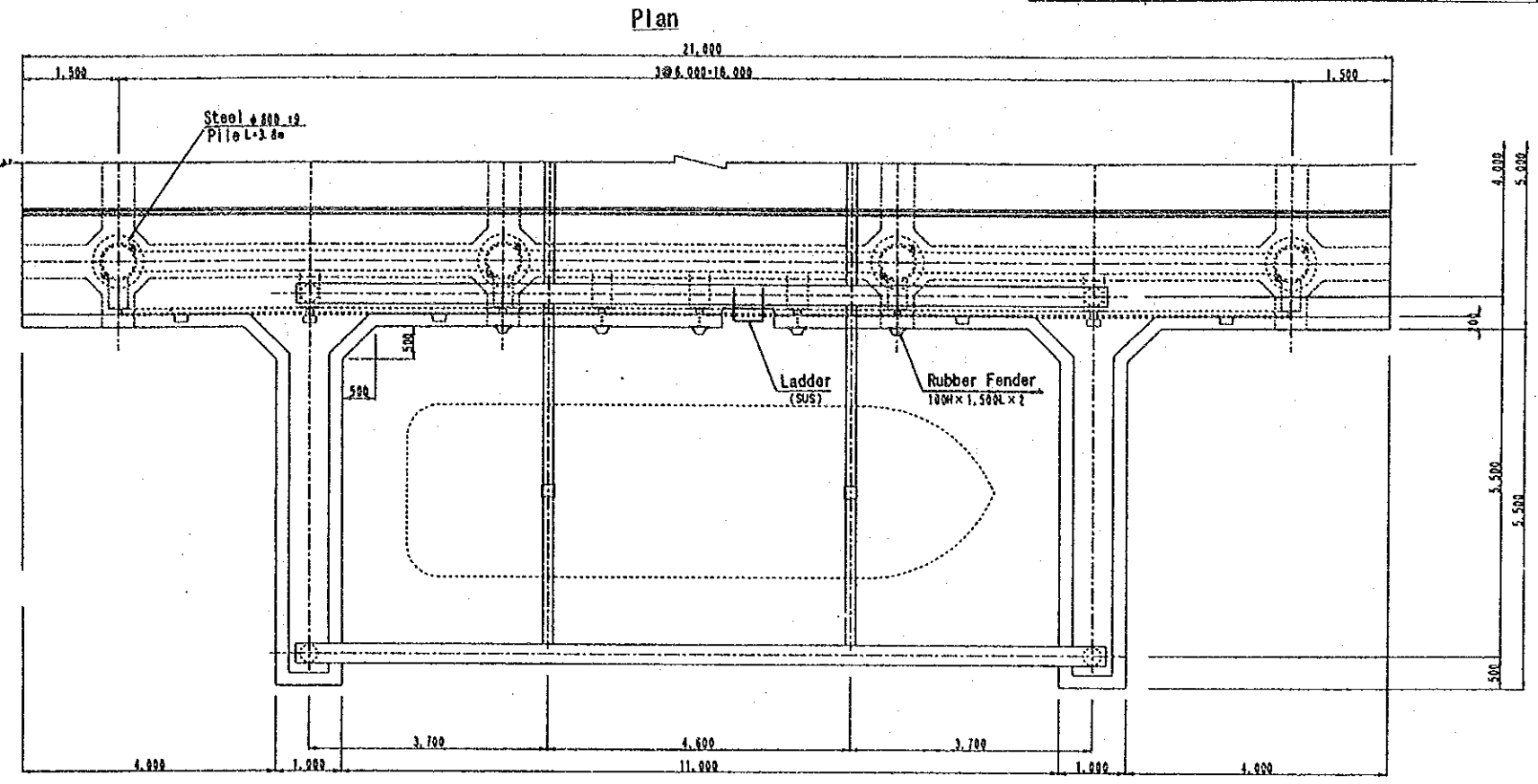


Fig. 3-3-6(4) Plan of Cutter Training Facility(Launching Facility) - 64 -



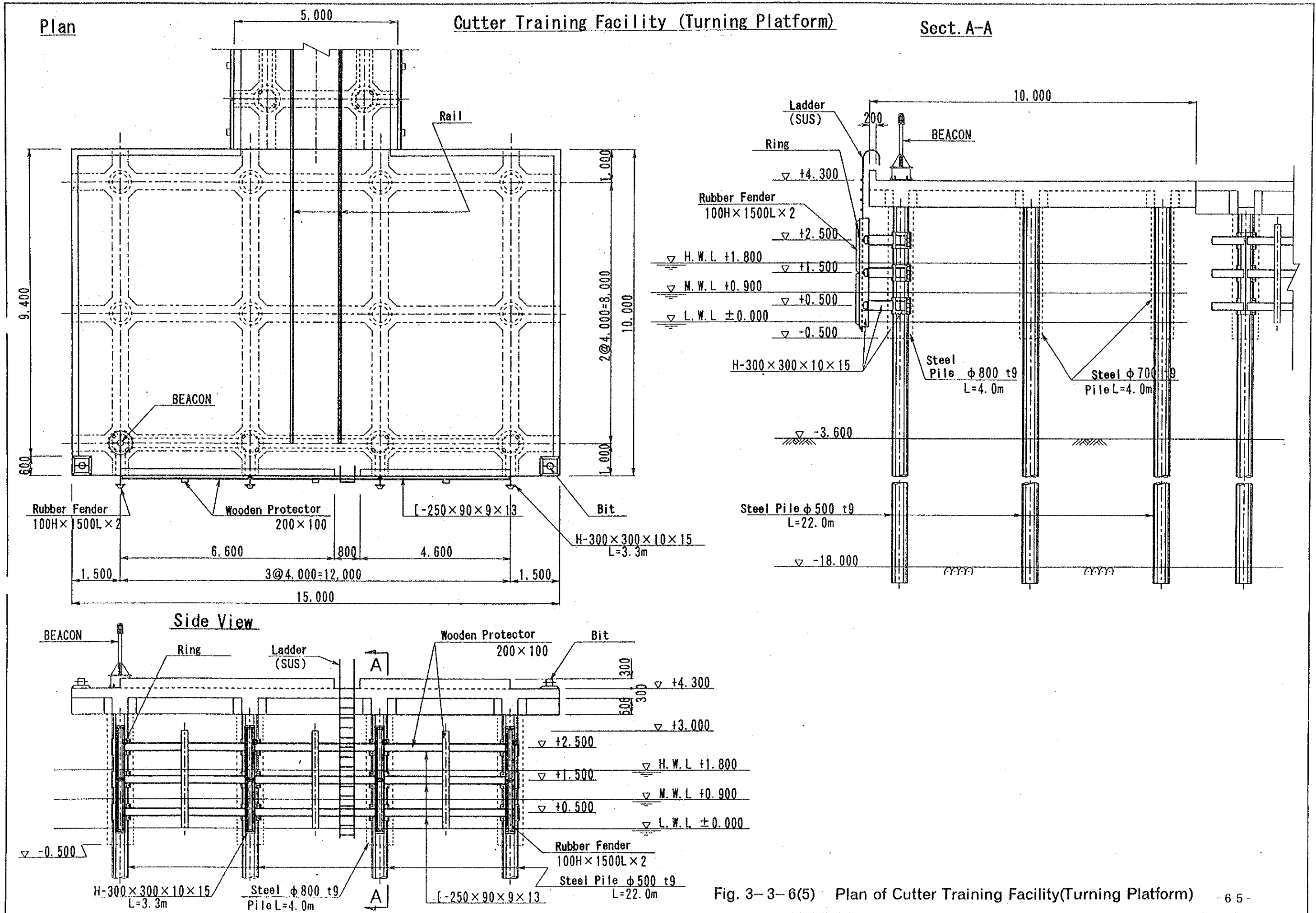


Fig. 3-3-6(5) Plan of Cutter Training Facility(Turning Platform)

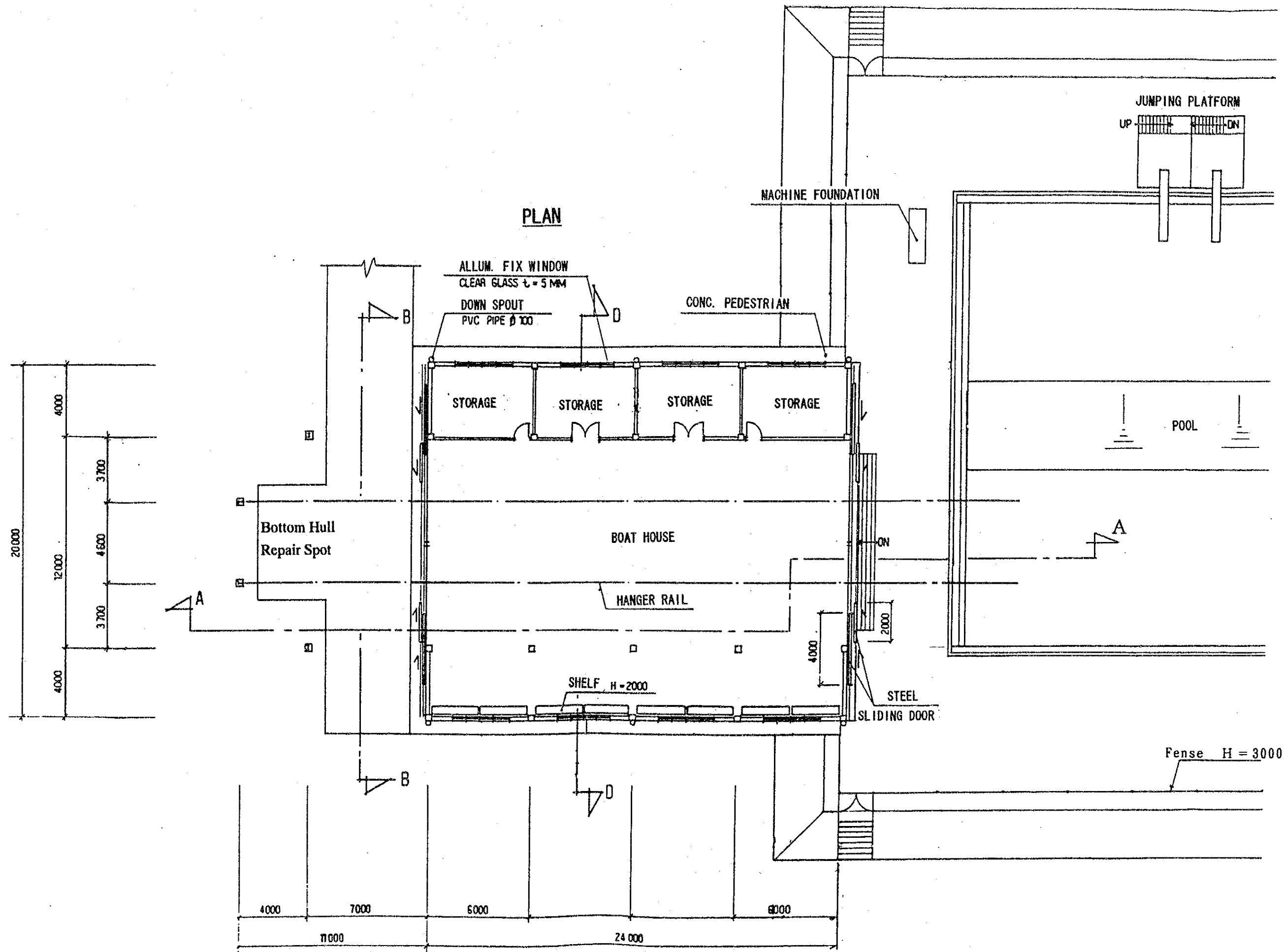


Fig. 3-3-7(1) Plan of New Boat House

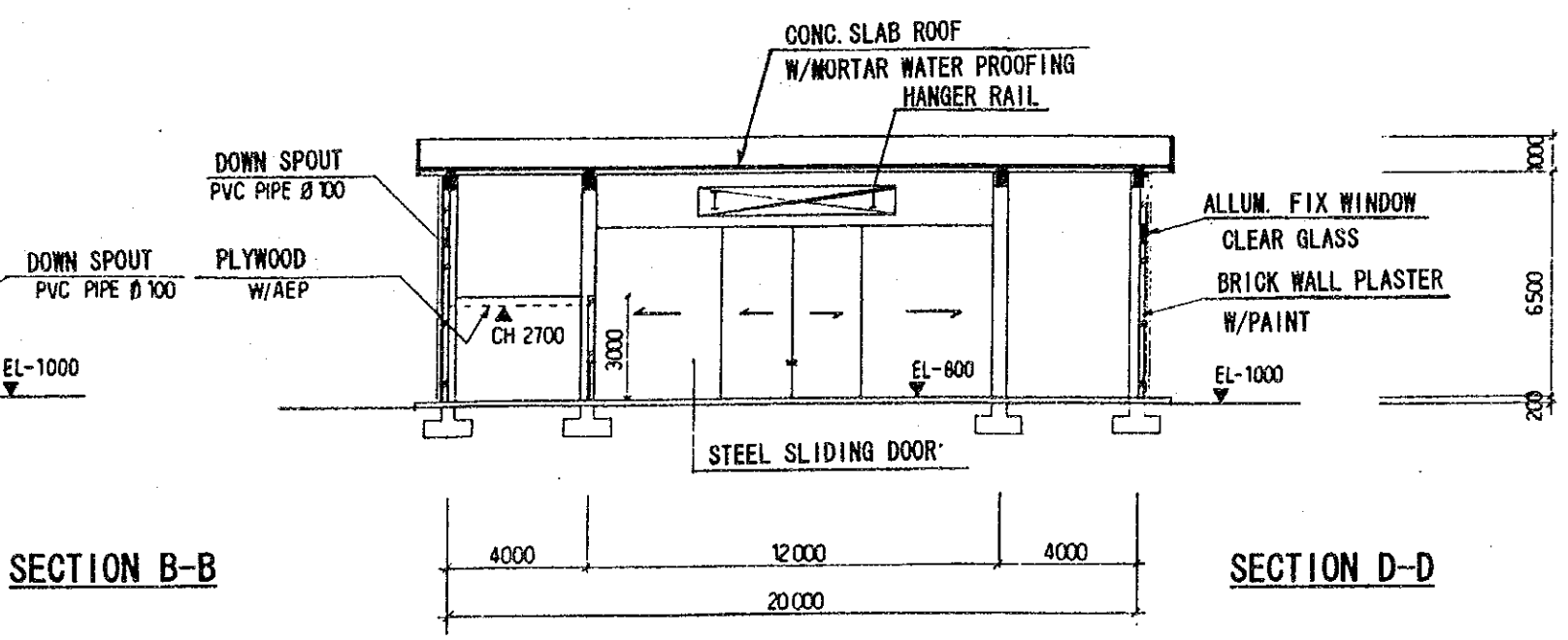
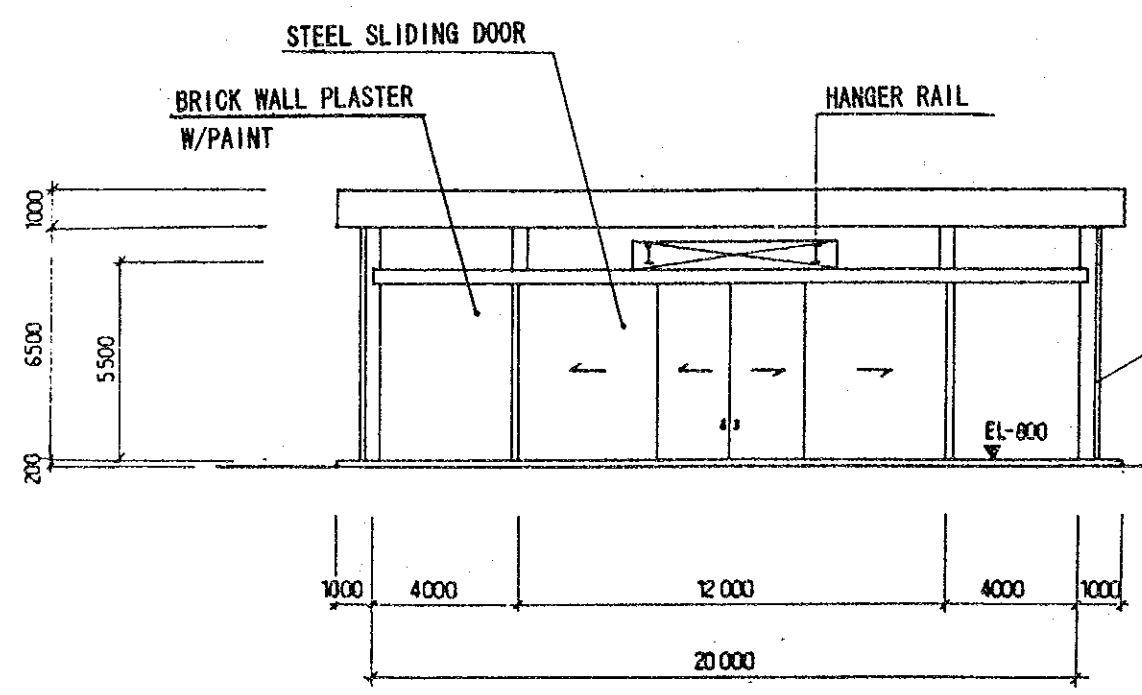
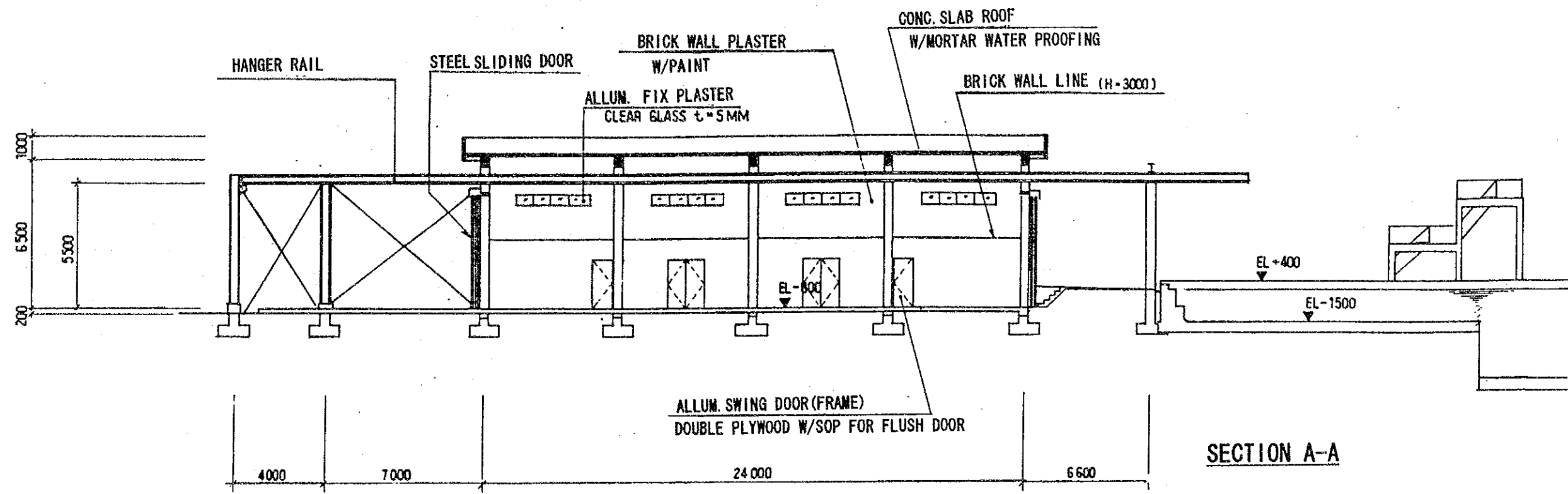
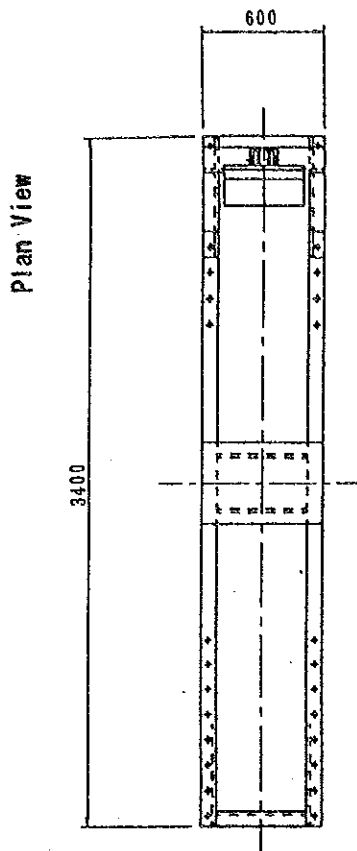
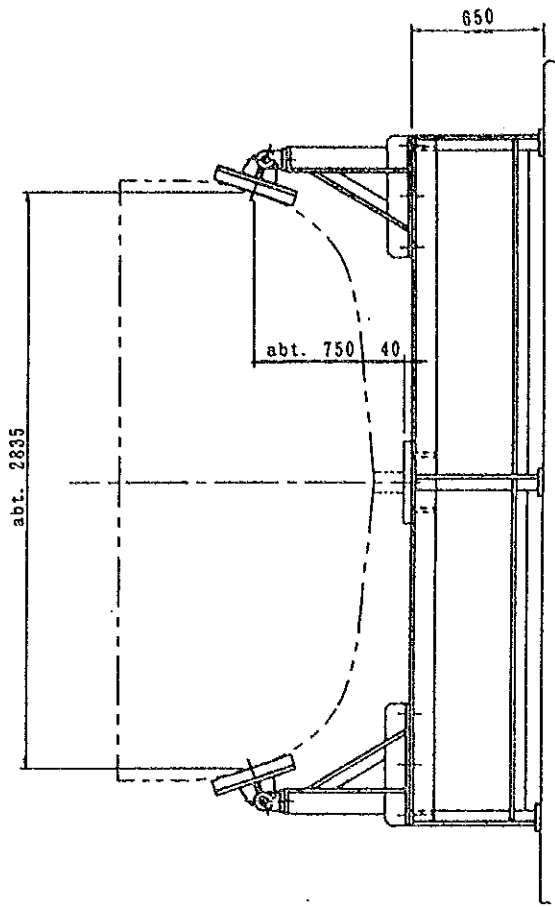


Fig. 3-3-7(2) Plan of New Boat House

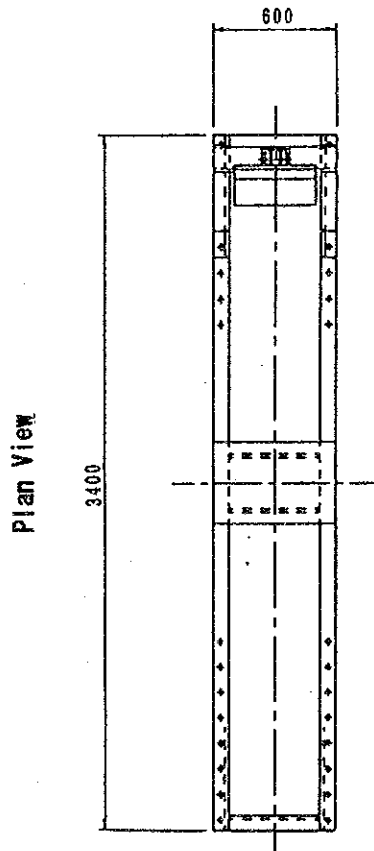




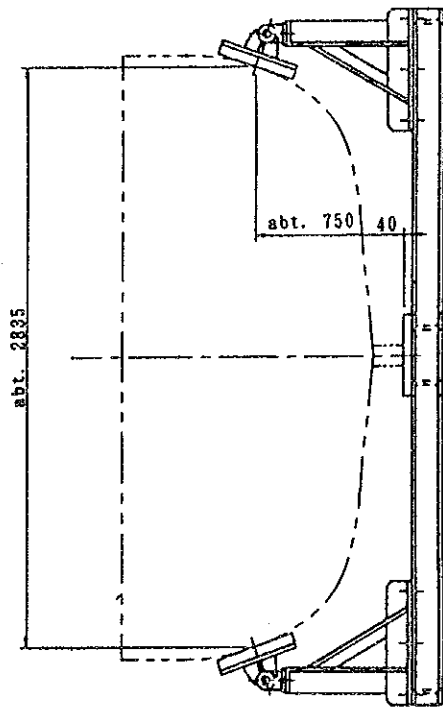
Side View



Boat Rack for Boat Repair Yard



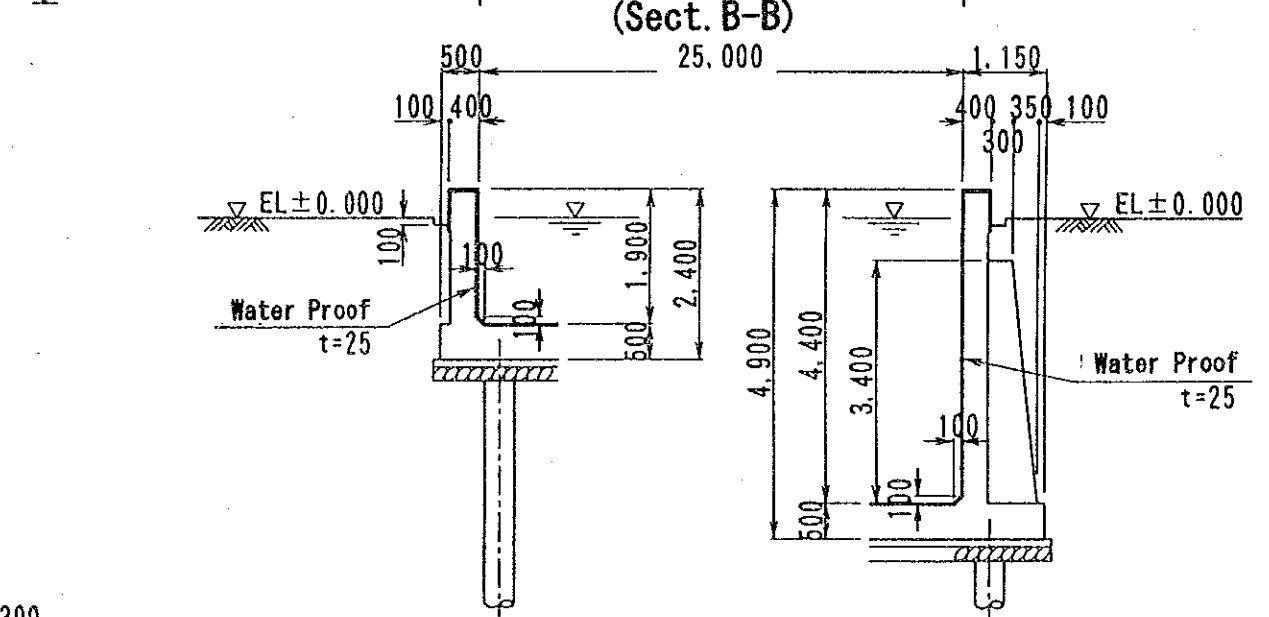
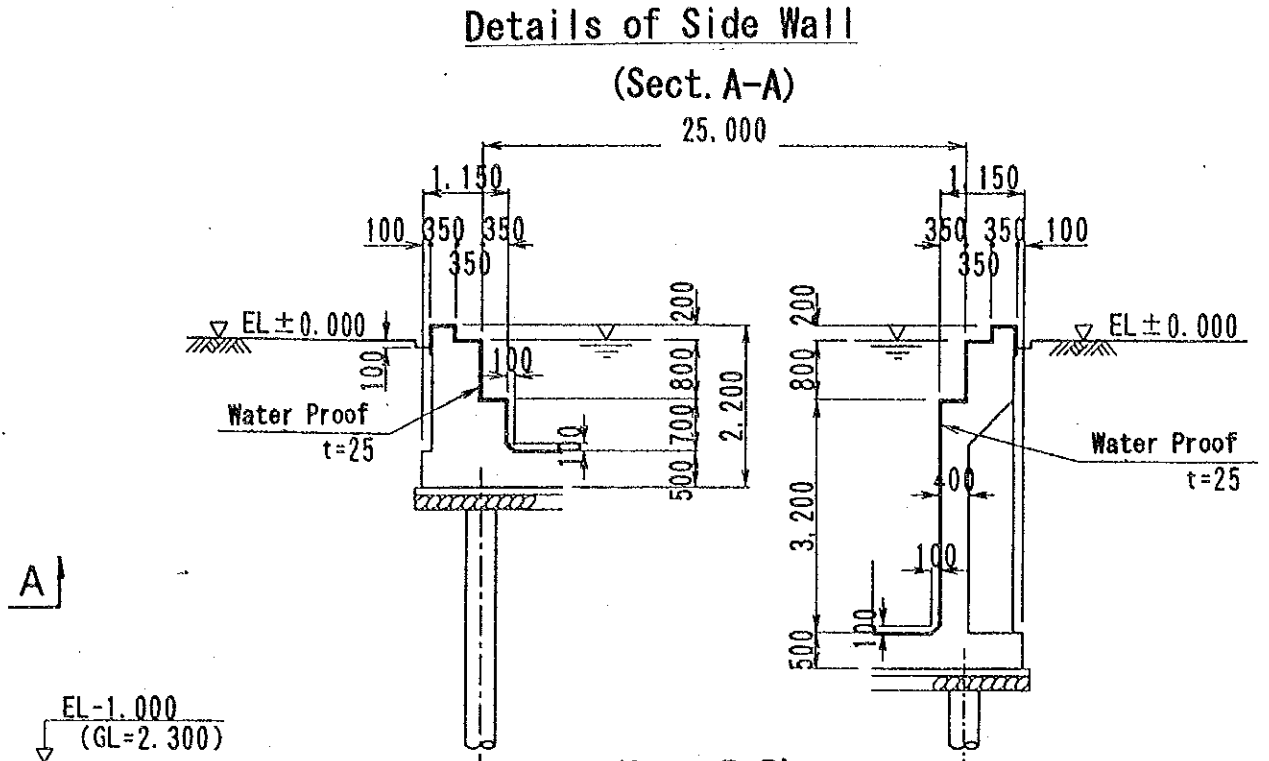
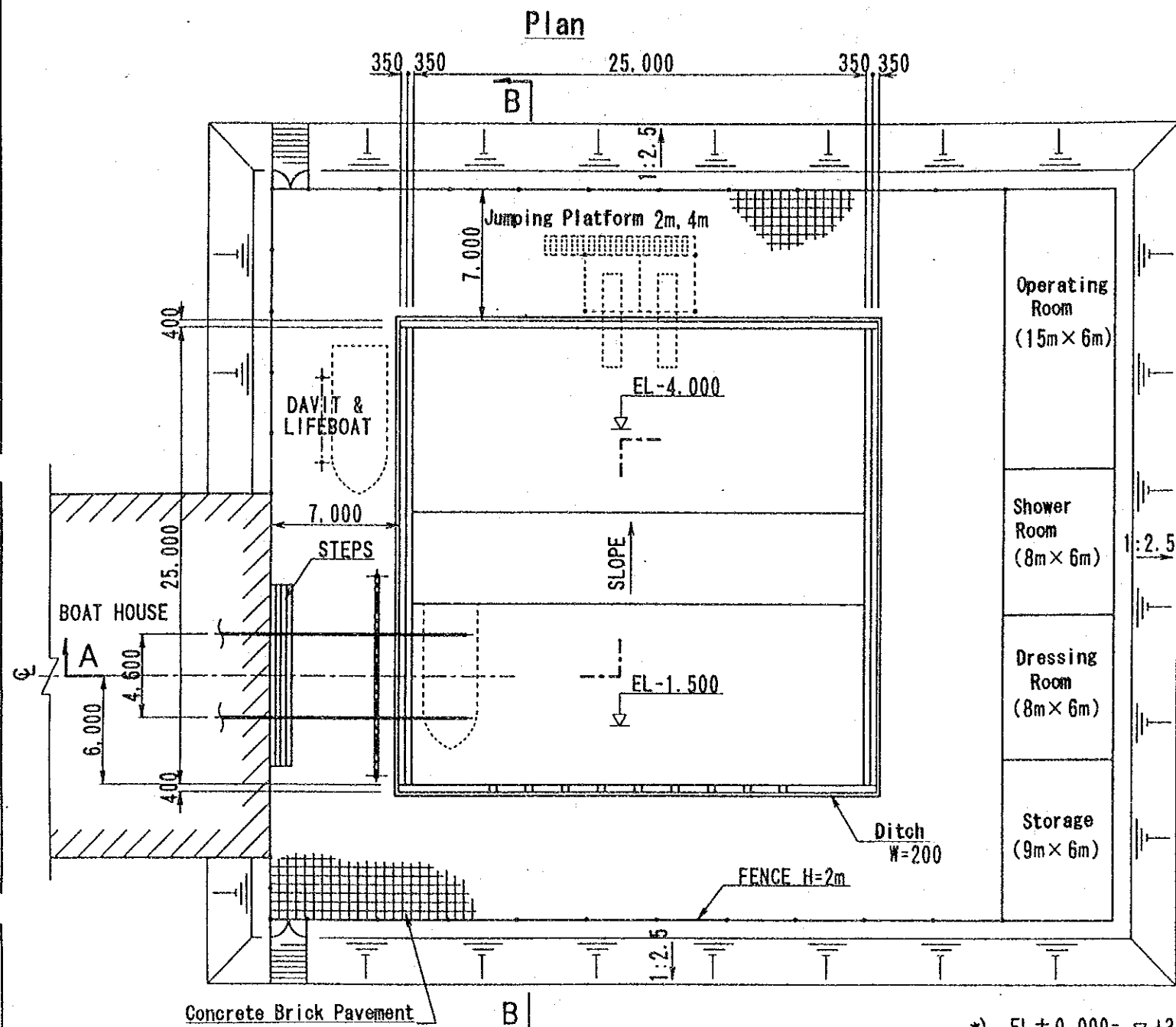
Side View



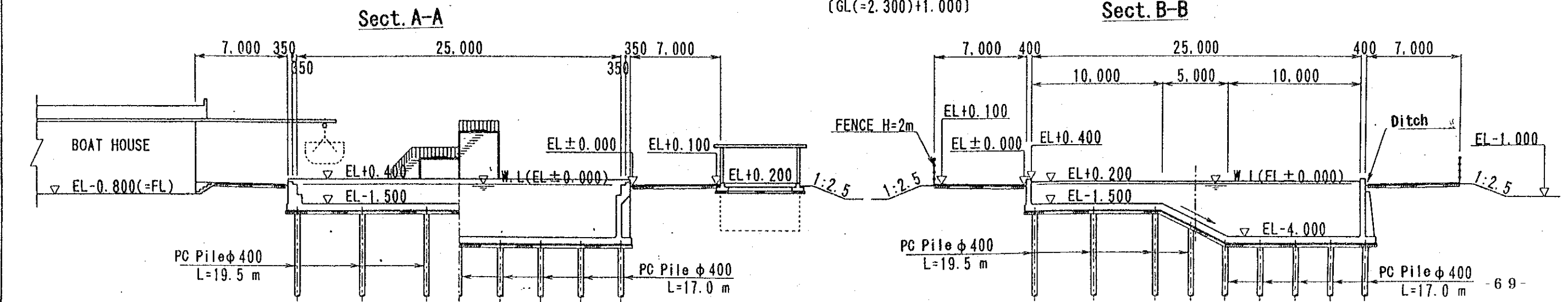
Boat Rack for Boat House

Fig. 3-3-7(3) Plan of New Boat House(Boat Rack)

Fig. 3-3-8(1) Plan of Survival Training Facility



\*) EL ± 0.000 = ∇ + 3.300  
(GL = (-2.300) + 1.000)



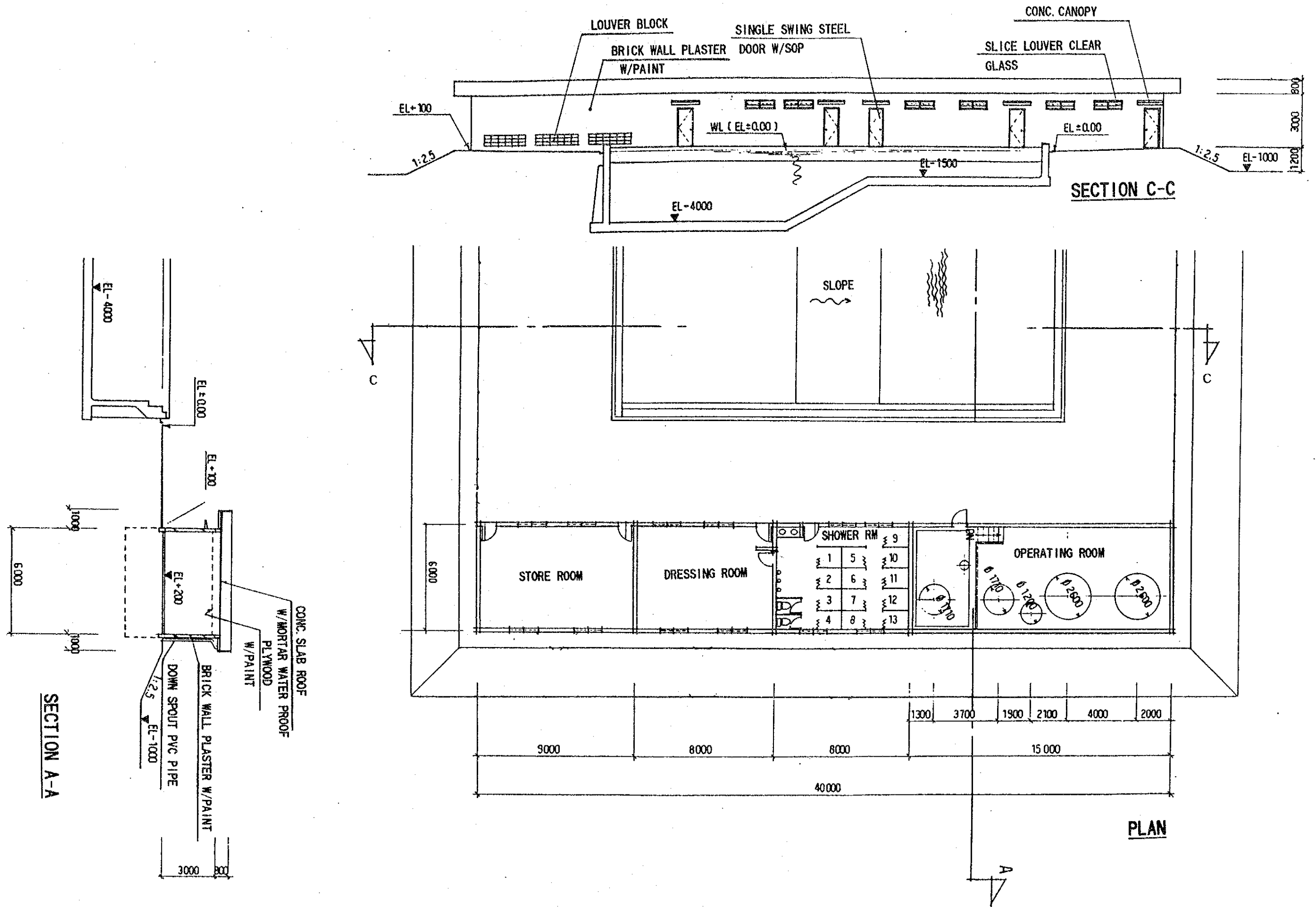
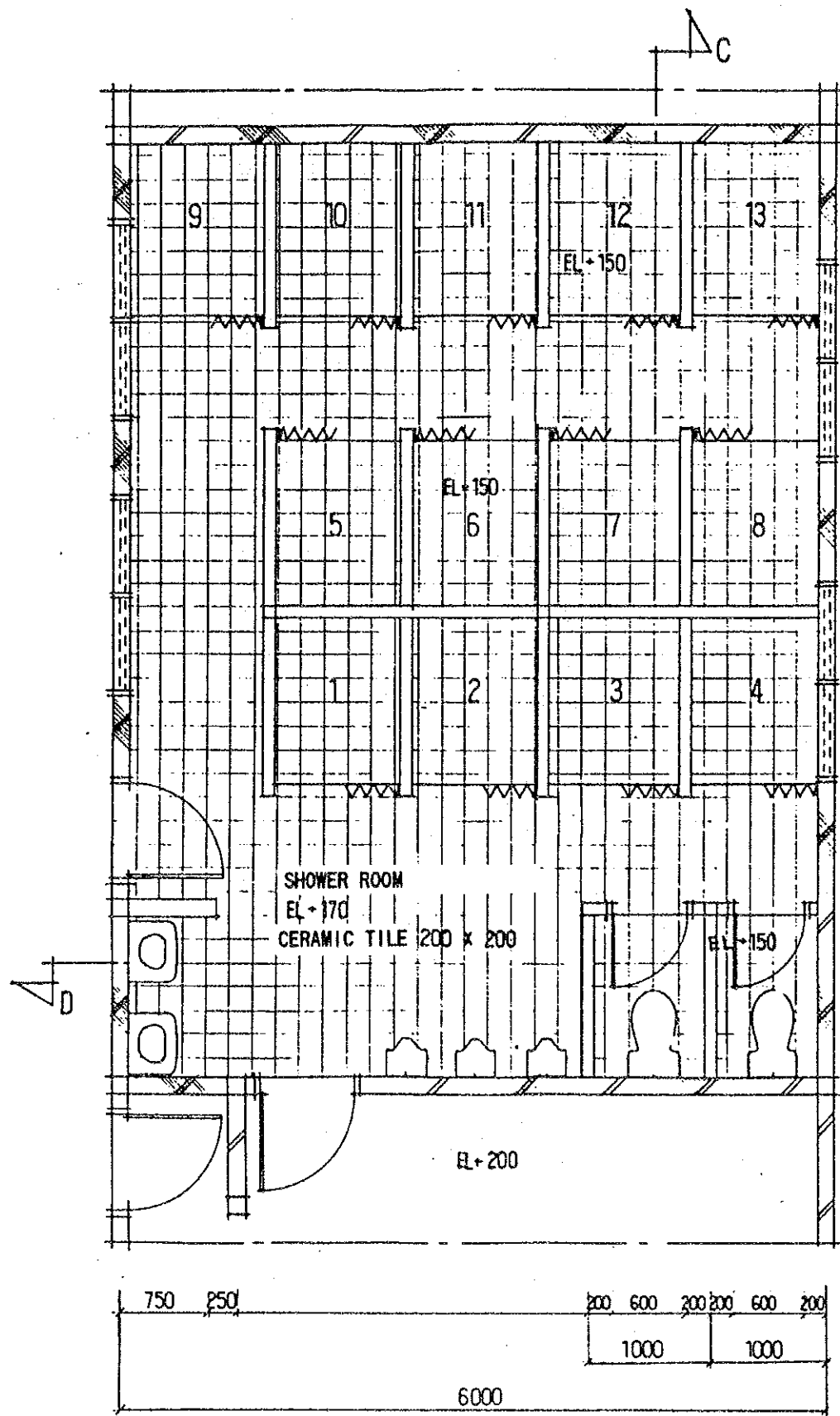
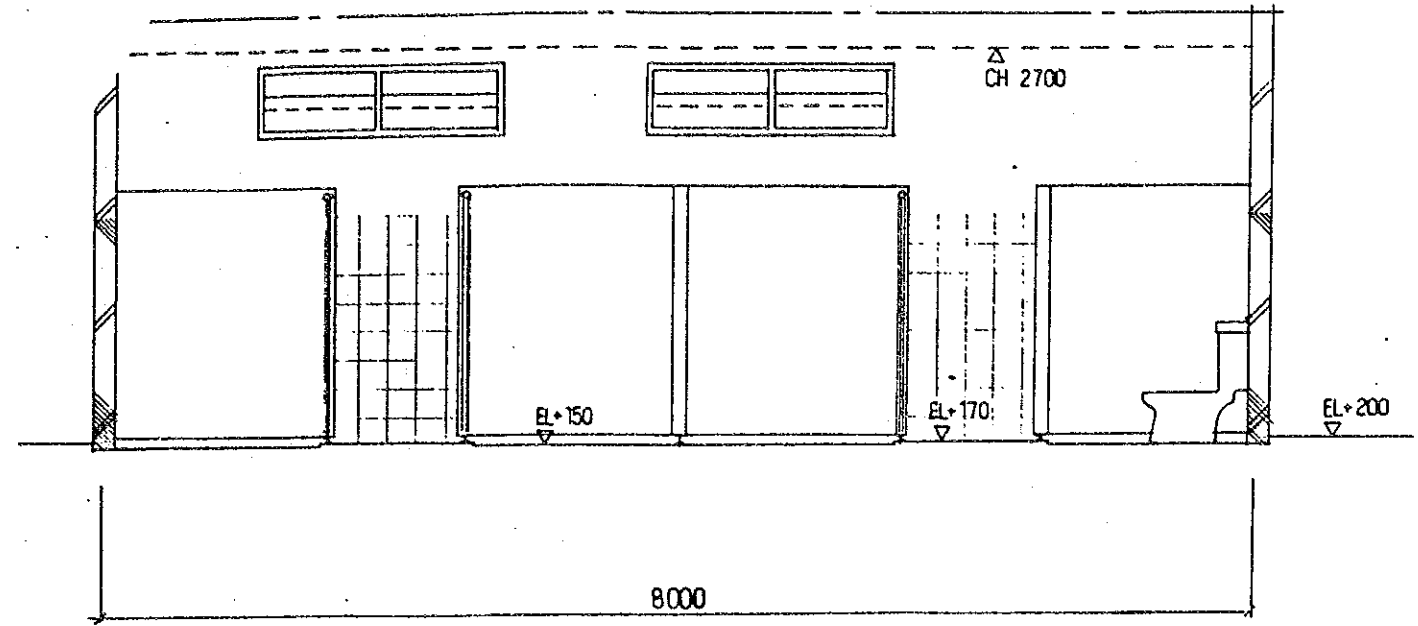


Fig. 3-3-8(2) Plan of Survival Training Facility (Building Portion)

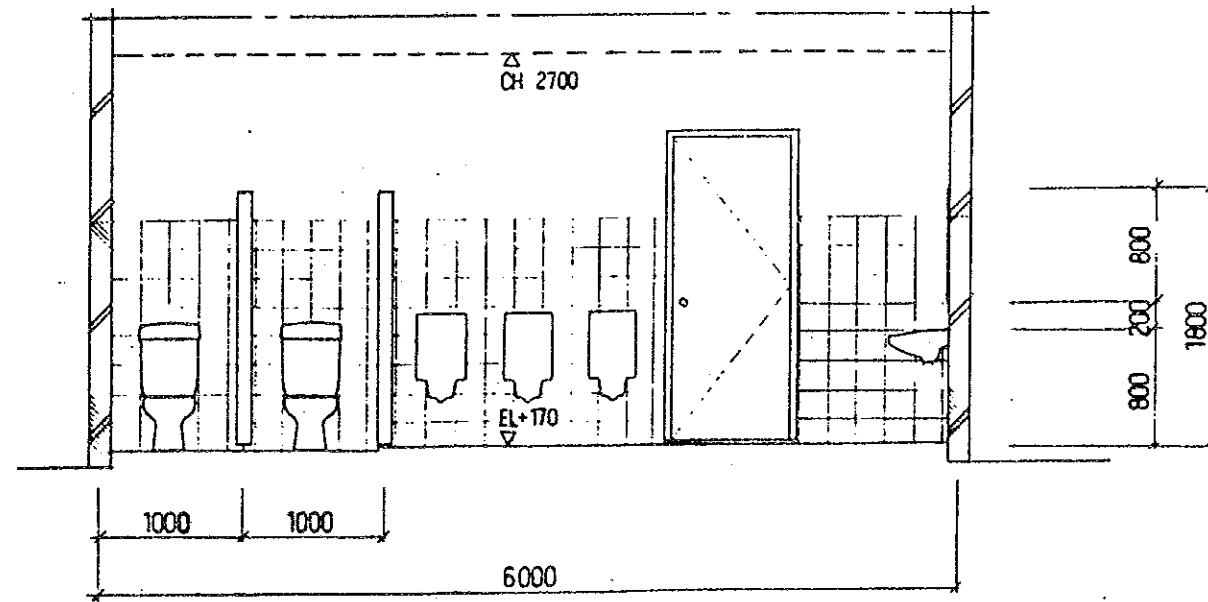
**SECTION D-D**



**SHOWER RM. PLAN**



**SECTION C-C**



**SECTION D-D**

**Fig. 3-3-8(3) Details of Survival Training Facility (Toilet/Shower Room)**





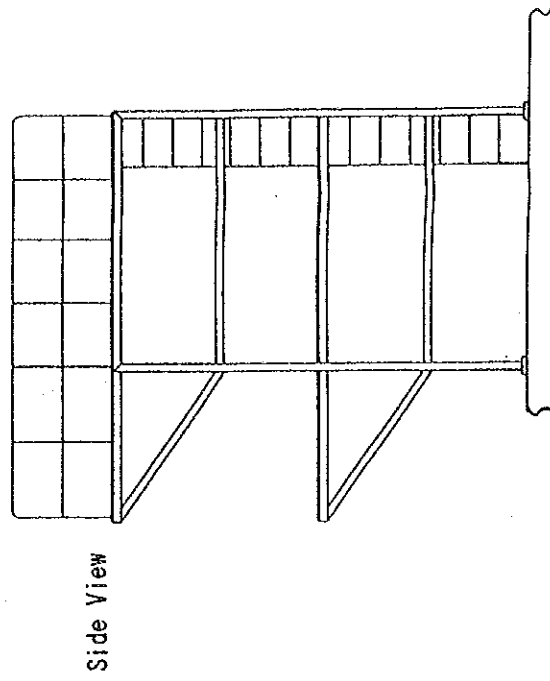
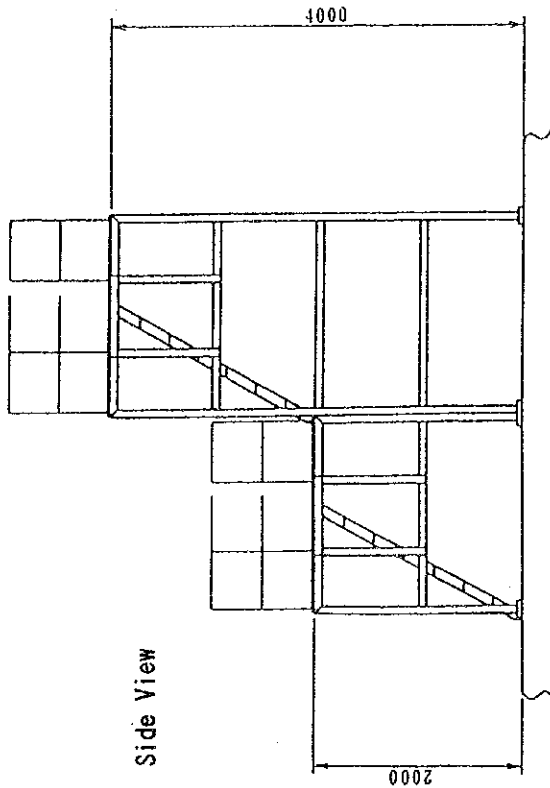
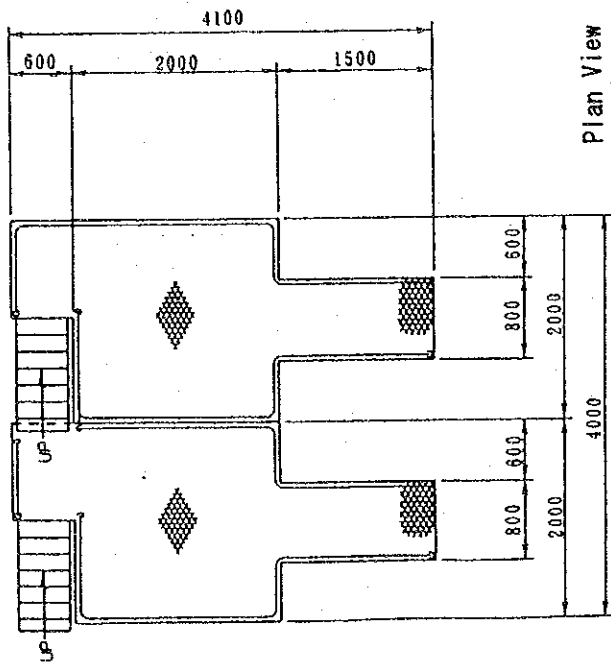
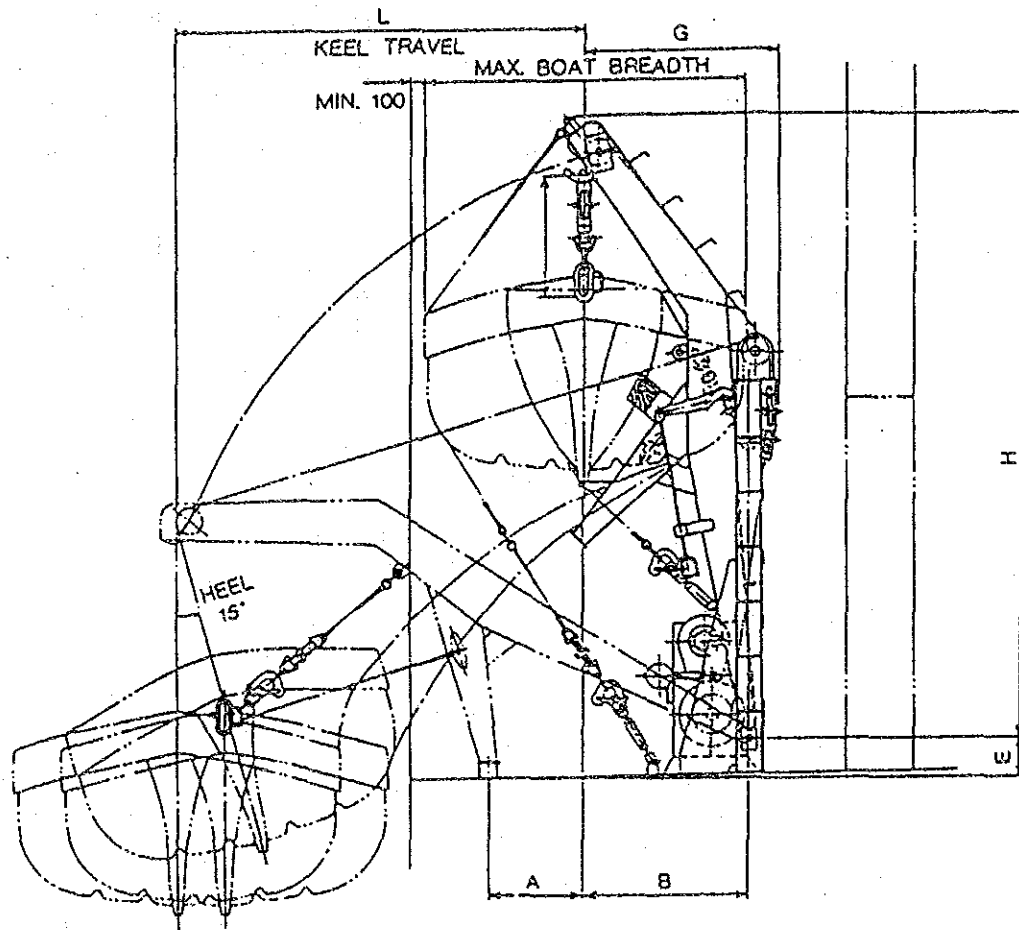


Fig. 3-3-8(4) Plan of Jumping Platform



Dimensions of Boat Davit

Type	Max. load kg	Max. boat breadth mm	Wire rope dia. mm	Dimensions mm							Boat winch		Air Motor	
				A	B	F	E	H	L	G	Type	Max. load kg	P.S	Pressure kg/cm <sup>2</sup>
SFB-30	4800	2400	18	710	1200	920	270	4460	3000	1400	SNWV-22	5000	4	6

Fig. 3-3-8(5) Plan of Davit for Life Boat



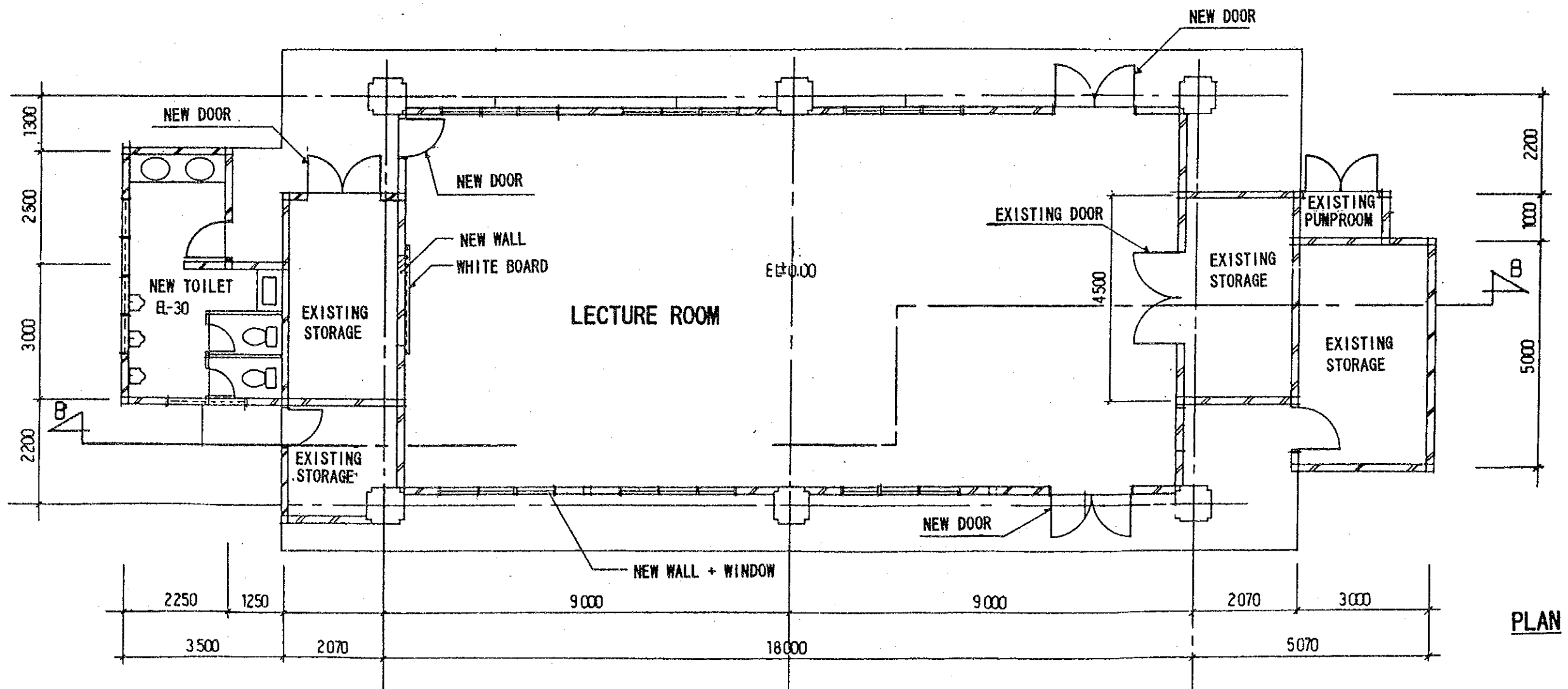
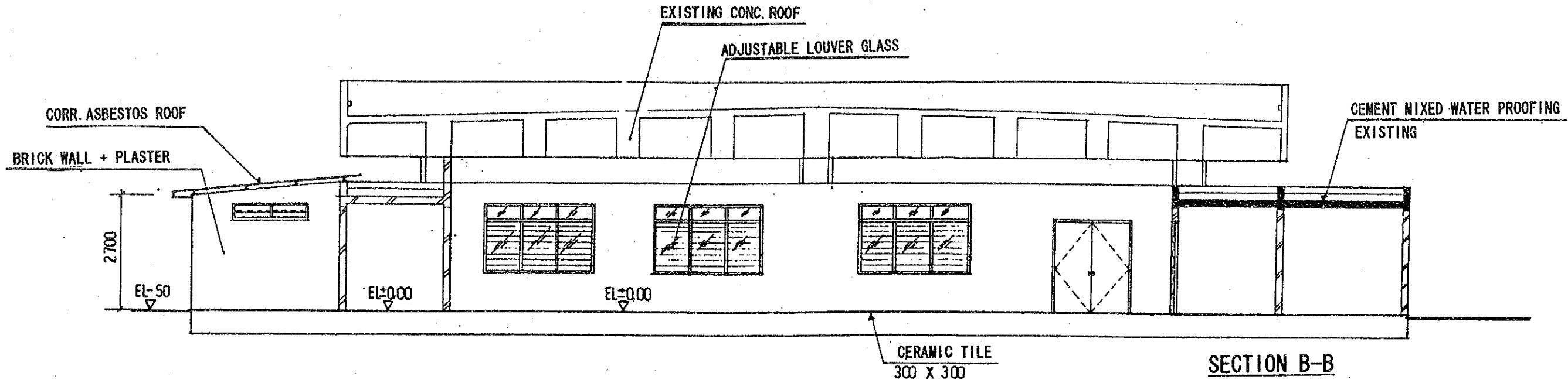
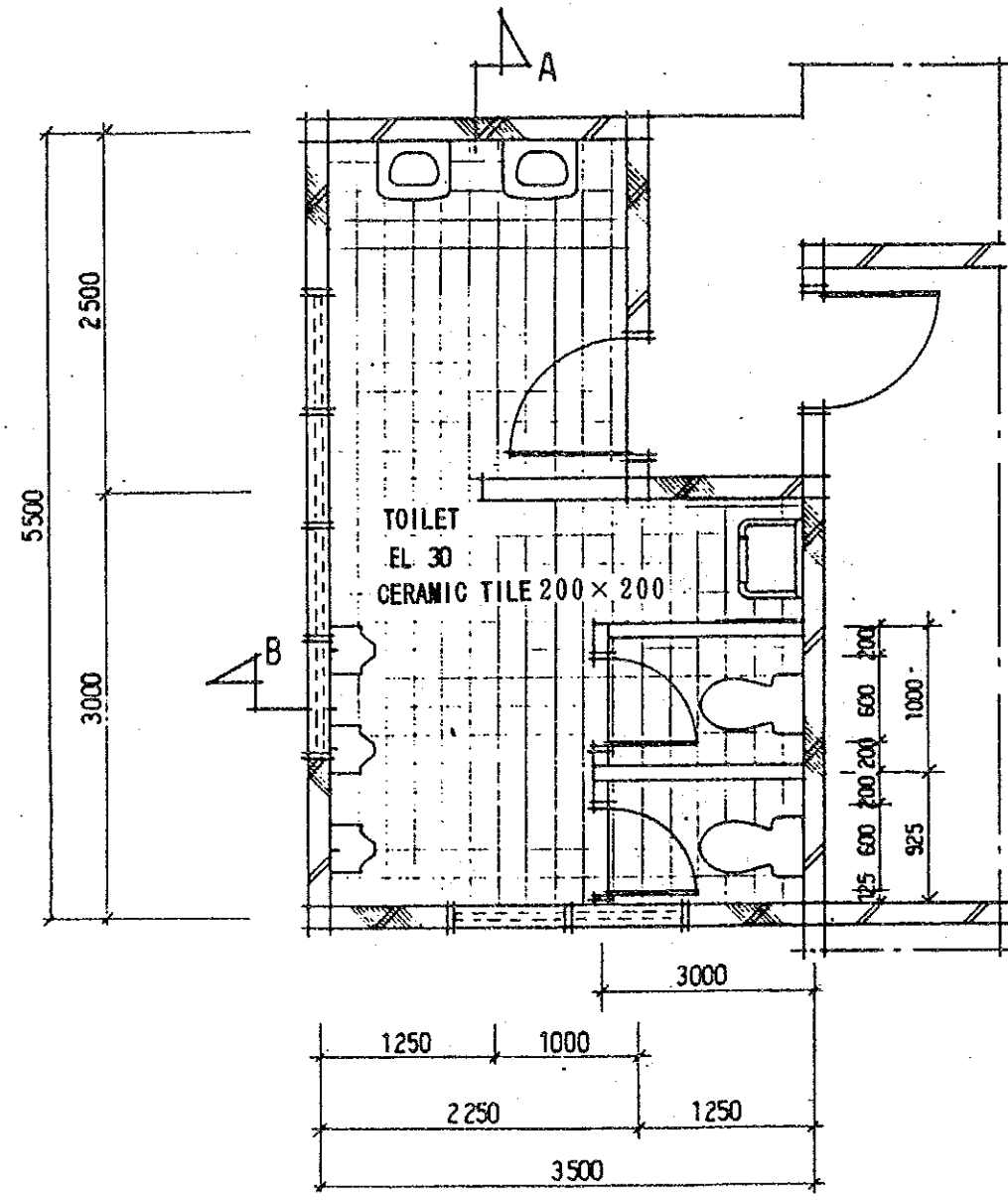
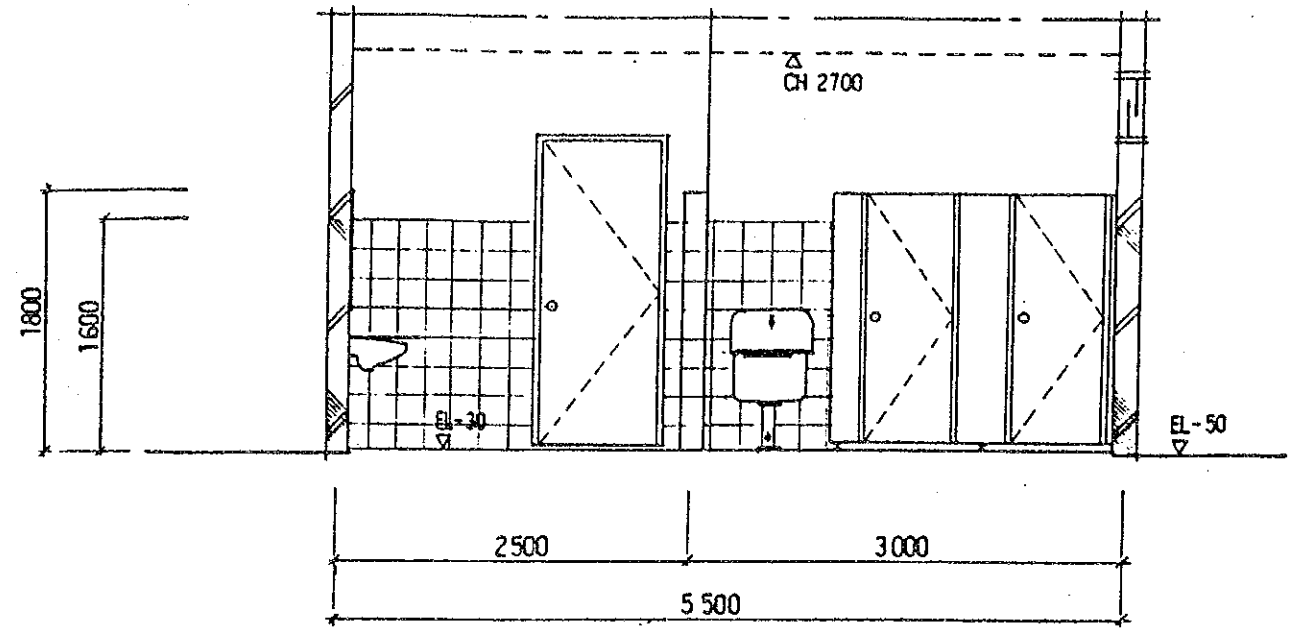


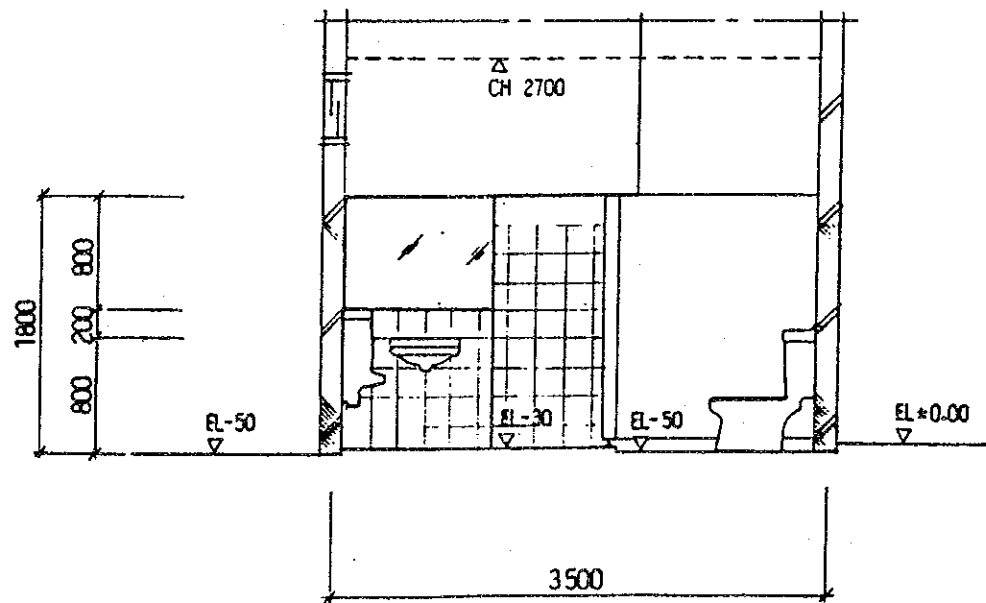
Fig. 3-3-9(1) Reformation Plan of Existing Boat House



TOILET PLAN



SECTION A-A



SECTION B-B

Fig. 3-3-9(2) Details of Toilet Room



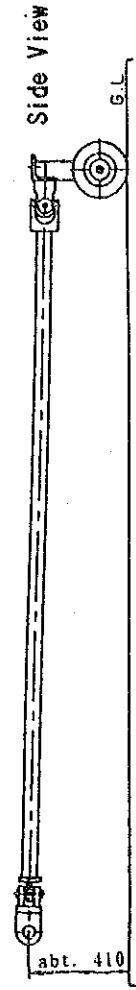
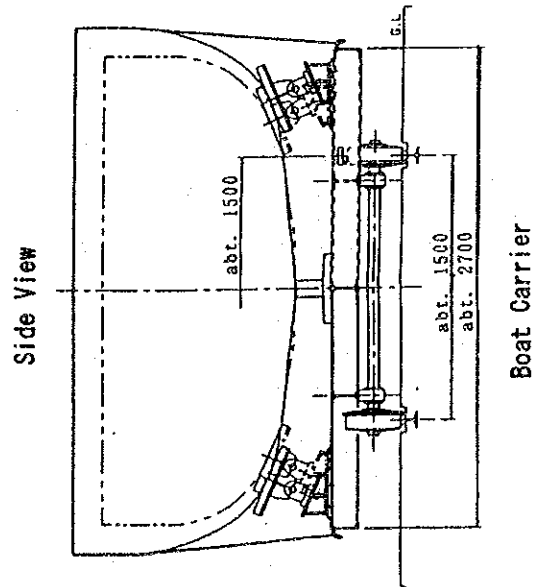
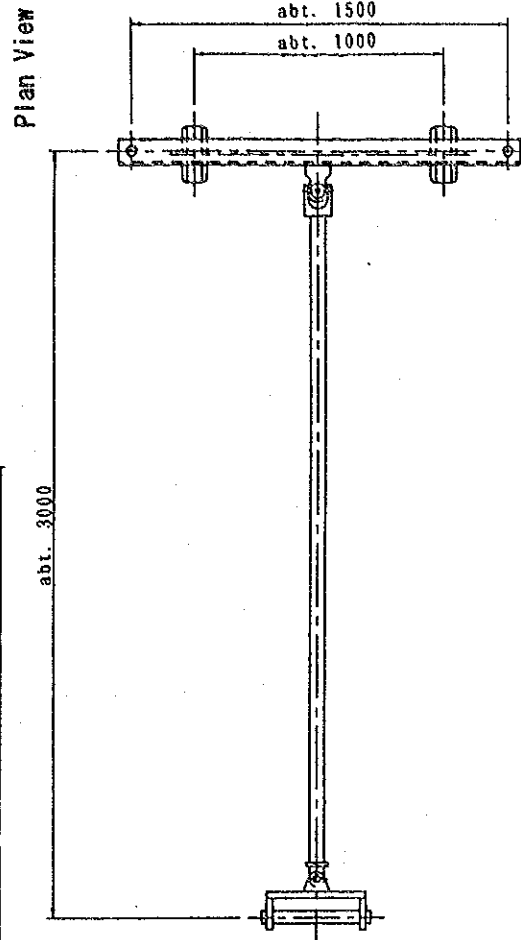
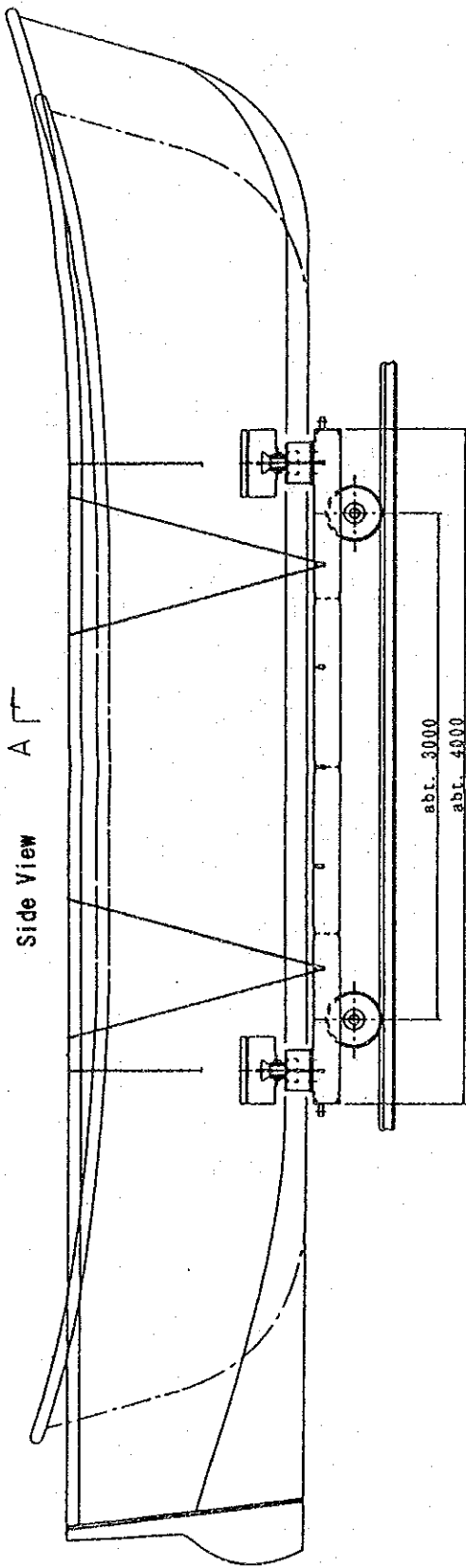
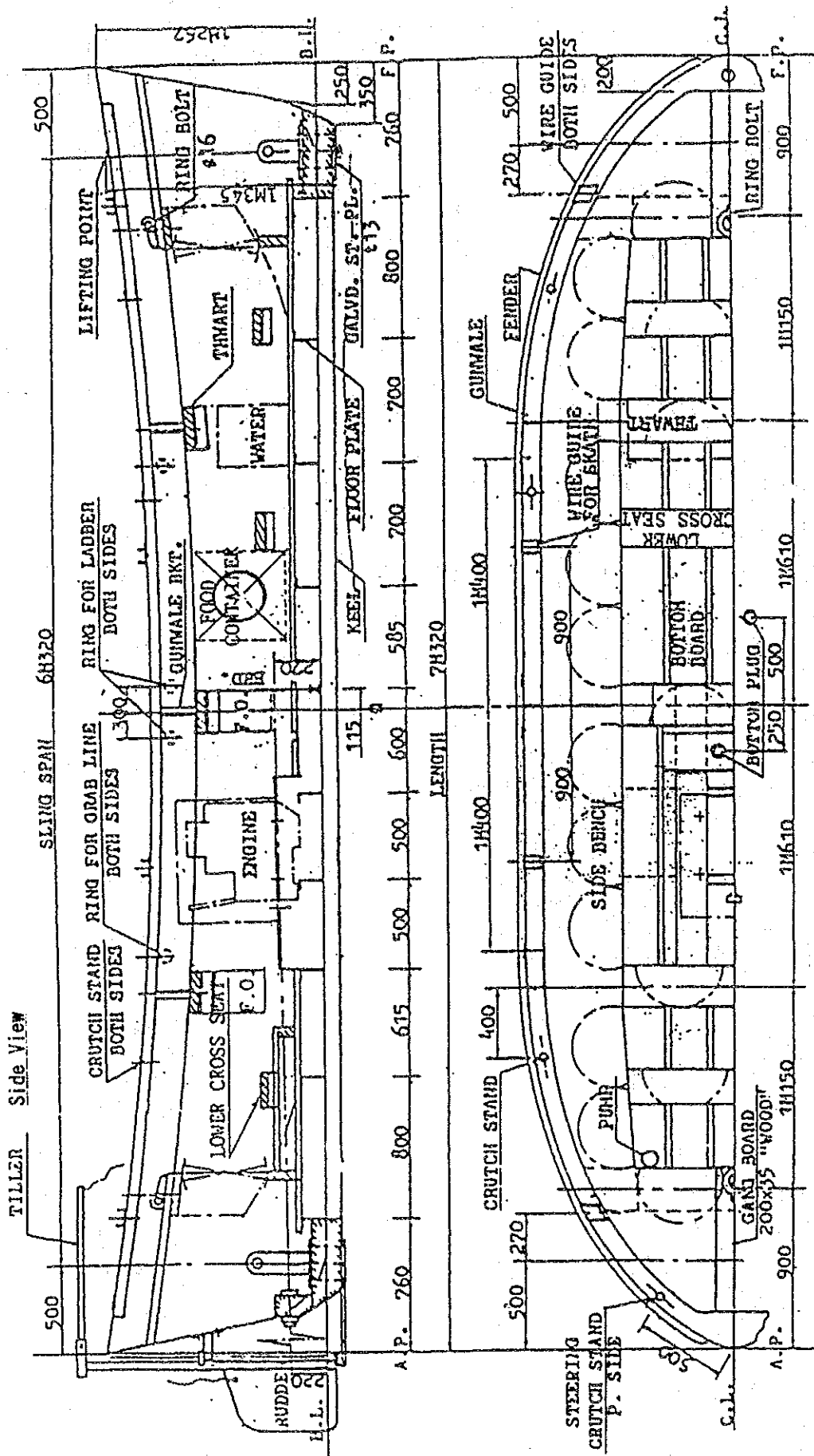


Fig. 3-3-10 Plan of Boat Carrier and Adapter



CONSTRUCTOIN PLAN

LENGTH 2.320mm  
 BREADTH 2.350mm  
 DEPTH 950mm



PLAN

Fig. 3-3-11 Plan of Open Type Engine Life Boat

### 3-4 Implementation Plan

#### 3-4-1 Construction Conditions

##### (1) Construction company

There are many construction companies in Indonesia and they may be used as sub-contractors of Japanese company.

##### (2) Construction machinery

Land construction machinery except for special types can be procured in Indonesia. The heavy machineries such as a crane, a motor loader or a pile driving machine will be required for the Project and they will be procured locally as a rule.

Most of the construction works for the cutter training facility will be performed on the sea. As there is some difficulty to procure floating construction crafts for pile driving and grab dredging for long term use in Indonesia.

##### (3) Workers for marine construction

It is difficult to procure skilled workers for marine construction works such as pile driving and grab dredging, and skilled experts will have to be dispatched from Japan.

##### (4) Equipments and materials to be imported

Steel pipe piles for the cutter training facility will be imported from Japan. Other equipments and materials can be, as a rule, procured from the local agents and sellers, but they may not have sufficient stocks. A careful procurement plan for use of the imported equipments and materials is needed in order to secure their stable supply, and close relation with the importers should be cultivated.

##### (5) Safety control

Sufficient care should be taken for safety of students and staff as the Project will be implemented within the School compound. In carrying out the marine construction work, care should be taken to secure safety of fishing boats in the adjacent maritime area.

**(6) Care for construction**

- a. Appropriate construction schedule should be prepared considering the natural conditions.
- b. Dispatch of the Japanese staff and technical experts should be planned carefully and the appropriate number of persons, timing and period should be determined by considering the progress of work.
- c. Local equipments and materials will be used as much as possible, minimizing procurement from Japan.
- d. As there will be involved much marine work, special attention should be paid to  
small crafts navigating in the nearby area.

**3-4-2 Implementation Method**

After signing of the Exchange of Notes (E/N) regarding implementation of the Project for Improvement of the Barombong Rating School by the Japanese Government and the Government of the Republic of Indonesia, a consultancy agreement on these project will be entered by a consultant of Japanese nationality and the Indonesian Government.

The consultant shall prepare documents required for the work such as drawings, specifications, cost estimations, tender and other documentations, and obtain the approval of the Indonesian Government, and a Japanese construction company will be chosen by tender which has passed the examination of the tender qualification and of the tender documents.

The work will be implemented under the agreement for construction to be concluded between the Indonesian Government and the construction company.

The construction period is expected to be 12 months, taking into consideration of the scope and content of the facility and the site conditions.

The Education and Training Agency, the Ministry of Communications are the execution organization of the Project. Close communication and coordination between the executing organization and the consultant are essential in implementing the Project. Fig. 3-4-1 shows the system of implementation for the work.

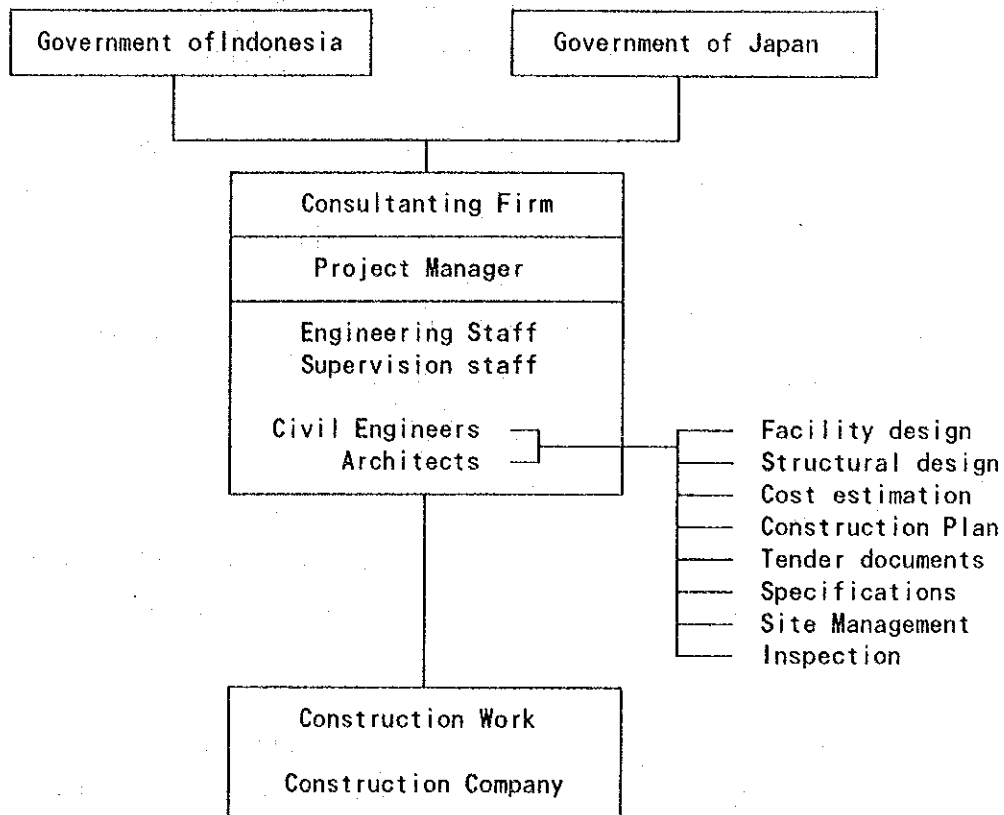


Fig. 3-4-1 System for Work Implementation

### 3-4-3 Construction Supervisory Plan

An integrated supervision for the detailed design and construction supervision of the Project will be performed by a consultant with full knowledge and understanding of the intent of the basic design and in accordance with the Japanese Government policy for grant aid cooperation. The consultant will dispatch a supervisor with expertise for construction to reside at site for supervisory works, to act as a liaison, to arrange for dispatch of technical experts at appropriate times as the work progresses, to conduct inspection and to give guidance.

#### (1) Policies Regarding Construction Supervision

- a. To maintain close contact and communication with related organizations and persons in charge of the two countries and complete the facilities within the schedule.

- b. To give prompt and adequate guidance and advice to those involved in construction in order to construct facilities in conformity of the design documents.
- c. To place priority on local techniques using local materials as much as possible.
- d. To aim at technical transfer regarding the construction and engineering to make the most of the grant aid program.
- e. To offer appropriate advice and guidance for maintenance and management of the facilities after completion and to help smooth operation.

## (2) Construction Supervisory Work

### 1) Assistance on contracting

Providing assistance on selection of contractors, determining type of contract, drafting contract agreements, reviewing details in work plans and witnessing contract awarding.

### 2) Examination and confirmation of the construction drawings, etc.

Checking and approving work on drawings as well as materials and equipments proposed or submitted by the contractor.

### 3) Guidance for construction work

Reviewing work plans, processes, etc., providing guidance for the constructor and reporting the work progress to the owner.

### 4) Assistance in payment

Collaborating with checking and processing bills on payment to the contractor for the work in progress or for the completed work.

### 5) Inspection

At varying stages of completion of work, the supervisor will examine the work so far completed as the need arises and give guidance to the constructor. The consultant shall confirm that the work has been completed and that the contractual conditions have been performed, be present at the inspection and delivery of the object of the Agreement, and finalize the work by obtaining the client's acceptance. The progress of the work, the procedure for payments, and other matters required for delivery shall be reported to those concerned in the Japanese Government.

### 3-4-4 Procurement Plan

The following points should particularly be noted in procuring materials and equipments for the Project.

#### (1) Procurement Policy

According to the policy of procuring appropriate materials and equipments locally by reviewing the local supply capacity and quality, procurement from Japan will be limited to minimum.

##### 1) Procurement from Japan

A detailed transportation plan should be made for some of the materials that are made to order or processed in Japan as it takes a long time before they can be ordered, manufactured, packed and delivered.

The land construction machinery can be locally procured, but some will be procured from Japan in view of economy, better conditions and wear against extended and continuous use.

##### 2) Procurement in Indonesia

Procurement of the principal construction materials such as aggregates will be determined by considering the place of origin, quality and transport capacity. The quality of cement, iron bars and concrete piles will be monitored thoroughly.

##### 3) Cost

The difference in cost between local procurement and procurement from Japan was studied, and the less costly items would be used. Materials to be procured from Japan will incur packaging, shipping and insurance costs but will be exempted taxes.

The procurement plan for principal materials to be used in the Project was made as follows.

#### (2) Items to be Procured

##### 1) Materials

Locally procured; aggregates, stones, crushed stones, cement, iron bars, timbers, concrete piles, etc.

Procured in Japan; steel pipe piles, fenders, steel stocks, light beacons,  
water purifying device, etc

2) Machinery

Locally procured; motor loader, crawler crane, trailer, truck, bulldozer,  
tire roller, pile driving machine, pile driving barge,  
etc.

Procured in Japan: Crawler barge, tugboat, anchor boat, concrete pump  
truck

3-4-5 Implementation Schedule

Construction by a grant aid from the Japanese Government is implemented as follows:

After the Exchange of Notes between the two countries takes place, a Japanese consultant company is appointed by the Indonesian Government;

A detailed design and supervision agreement is concluded between the Indonesian Government and the consultant;

And the project is completed in three stages of preparation of a design documentation, execution of tender and the construction agreement and construction.

(1) Detailed Design Works

After the consultancy agreement is executed between Indonesia's implementing organization of the Project and a Japanese consultant company, the agreement will be verified by the Japanese Government, and the consultant will start working on the detailed design works. For the detailed design, tender documents consisting of detailed design drawings, specifications, tender notices, etc. based on the present report will be prepared. Consultation with the Indonesian Government will be held regarding the details of the facilities, equipments and materials, and the approval of the tender documents will be obtained from the Indonesian Government.

About three months will be required to prepare the detailed design.

## (2) Tender Works

The contractor (Japanese construction company) for construction of the Project facilities will be decided by the tender. The notification, acceptance of the tender offer, examination of qualification, distribution of the tender documents, the tender, evaluation of the tender result, designation of the contractor, and contracting the work will be performed in this order, the whole procedure taking about one and a half months.

## (3) Construction Work

Construction will be started after execution of the Agreement and verification by the Japanese Government of the Agreement. The period of construction is assumed to be about 12 months considering the scope and content of the facilities, the local construction conditions, and possible lowered work efficiency during the rainy season.

Fig. 3-4-2 shows the schedule for implementation of the Project from the Exchange of Notes until completion.



Month	1	2	3	4	5	6	7	8	9	10	11	12	Remarks
D D e e t t a i i g l n e d		(Field)		(Home)									Site Survey Design, Tender Documents Approval of Tender Document
				(Field)									
C o n s t r u c t i o n		(Preparation)											
				(Temporary Works)									
				(Mobilization & Procurement)									

Fig. 3-4-2 Schedule for Project Implementation

### **3-4-6 Scope of Work**

The scope of works of the Project to be performed respectively by Japan and Indonesia are as follows.

#### **a. Scope of work to be undertaken by Japan**

- \* Cutter training facility**
- \* New boat house**
- \* Survival training facility**
- \* Reformation of the old boat house**
- \* Cutter boat transportation facility**
- \* Equipments and materials**

#### **b. Scope of work to be undertaken by Indonesia**

- \* Ground water resource survey**
- \* Drilling a new well for the survival training facility**

## **CHAPTER 4**

### **PROJECT EVALUATION AND CONCLUSION**

## CHAPTER 4: PROJECT EVALUATION AND CONCLUSION

### 4-1 Project Evaluation

Improvements due to the implementation of project facilities will facilitate the efficient and smooth survival training and cutter training as a part of the life boat training which cannot be performed currently because of sedimentation in the groyne and lowered functions of the wooden jetty, to thereby substantially meet the education and training requirements under the STCW Convention. Training in the sea is often hindered during the monsoon period when strong seasonal winds blow and the severe wind waves in the sea, but with the completion of the facilities, such training can be performed safely at any time.

The Barombong Rating School plays a central role in the Sulawesi Island and its neighboring areas. Expansion of the School facilities under the present Project will help enhance this school's situation as a model not only for education of seamen but also for other marine academies and rating schools and raise the level of seamen education in the Republic of Indonesia. The effects and improvements on the current situation achieved by implementation of the present Project are as follows.

#### (1) Implementation of the Project Facilities

##### a. Current situation and problems;

Training as required by the STCW Convention is hindered by sedimentation of the groyne and lowered functions of the jetty, calling for an alternate facility.

##### b. Proposed Plan;

The cutter training facility, the survival training facility and the related facilities and equipments will be built in order to implement cutter training and survival training required by the STCW Convention.

##### c. Effects of the Project;

\* Almost all the items of training as required by the STCW Convention can be performed.

\* Efficient and safe implementation of education and training will become possible.

- \* The school will firmly establish its position as a model school in Indonesia.
- \* The Project will help raise the standard of seamen education in Indonesia.

**(2) Implementation of the Cutter Training Facility**

**a. Current situation and problems;**

Life boats and cutter boats are launched by manpower from the sandy beach, creating problems such as damages to the boats and inability to secure ample time for training.

**b. Proposed Plan;**

The jetty of the cutter training facility and launching facility on the top will installed to improve transporting the boats and launching works.

Length of the facility: 310 m

Crown width: 5 m

Transportation facility: tractor, carrier, rails

**c. Effects of the Project;**

- \* Transporting and launching of the life boats and cutter boats will become safe and easy, to thereby achieve efficient education and training.
- \* Training required under the STCW Convention can be implemented in the conditions closer to actual conditions.

**(3) Implementation of the Cutter Training Facility**

**a. Current situation and problems;**

- \* The buried groyne makes it difficult to carry boats in and out of the boat house depriving the proper function of the boat house.
- \* No space is available for repair of boats.
- \* Storage space for equipments is not sufficient.

**b. Proposed Plan;**

- \* A new boat house will be built.
- \* Storage space for equipments will be provided in the boat house.
- \* Space for repair of the bottom hull will be provided.

Area of boat house; 480 m<sup>2</sup> (20 m x 24 m)

**c. Effects of the Project;**

- \* Boats can be efficiently carried in and out of the cutter training and survival training facilities.
- \* Repair works can be performed in safety.
- \* Exterior walls provided around the boat house will improve storage conditions and facilitate work inside the building.
- \* Storage conditions of equipments and materials will be improved.

**(4) Implementation of the Survival Training Facility**

**a. Current situation and problems;**

The calm water area in the groyne is not functioning due to sedimentation, which makes survival training and cutter training impossible, particularly during the monsoon period.

Training required under the STCW Convention such as launching the life boat and jumping from a height with a life jacket cannot be conducted.

**b. Proposed Plan;**

- \* The survival training facility will be improved to secure the calm area.
- \* Davit for boats will be installed.
- \* Jumping platform will be installed.

Pool area; 625 m<sup>2</sup> (25 m x 25 m)

**c. Effects of the Project;**

- \* Items for the survival training required under the STCW Convention can be satisfied.
- \* Training can be implemented safely and efficiently.
- \* Training can be implemented at any time irrespective of weather conditions.

**(5) Reformation of the Existing Boat House**

**a. Current situation and problems;**

Rapid increase of the students cannot be cater for the corresponding increase of lecture rooms.

b. Proposed Plan;

- \* The old boat house which cannot be used for its original purpose will be converted to a lecture room.

Area; 303.75 m<sup>2</sup>

c. Effects of the Project;

- \* Lack of lecture rooms is resolved.
- \* Advantages of a class room beside the shore will be useful.

(6) Supply of Life Boat

a. Current situation and problems;

- \* School's life boats are getting old and obsolete.

b. Proposed Plan;

- \* An open type engine life boat will be offered.

c. Effects of the Project;

- \* Safety and content of training can be improved.
- \* Training of launching and lifting the boat on or from the water can be performed.

4-2 Conclusion

The Barombong Rating School is evaluated as a model school for seaman's education in Indonesia. In East Indonesia, the School is making great contribution to regional development in respect of human resources. Improving the School under this Project will establish its leadership in the field as a model which meets all the requirements of the STCW Convention, and elevate the level of seamen's education in Indonesia as the School fosters positive exchange with other training organizations for seamen such as rating schools and marine academies.

Improved educational and training level and capability as a result of the Project will contribute to achieving objectives of the long term development plans such as the Maritime Sector Development Programme and the Integrated Sea Communications Manpower Development and Training Master Plan under the 5-Year Economic Development Programme, and diffusion of maritime qualifications which are

internationally recognized under the STCW Convention is essential for development of Indonesian maritime industry.

*The basic facilities of the School were constructed by the two grant aids of Japan and have since been expanded by Indonesia's self-support effort. Organization, staff and budget for the maintenance and operation of the facilities are well planned and the School management is in good shape, with cooperation and guidance by JICA experts. To meet the rapid increase of students in recent years, the budget for facility maintenance has been increased. It is therefore judged that maintenance, supervision and operation of the facilities under this Project will face little problem.*

In selecting the structural style of the planned facilities, special care was taken to conserve the natural environment in this area with excessive littoral phenomena by choosing a pile-type jetty structure which will not hinder the littoral drift nor affect the adjacent beaches.

Since the survival training and the cutter training as a part of life boat training required by the STCW Convention are currently impeded by sedimentation of the groyne as discussed above, early implementation of the Project by grant aid is desired. Judging from the degree of effectiveness, the nature of the Project, and anticipated management and operation after the facilities are improved, the Project is considered quite valid and significant.





## APPENDICES



## APPENDICES

Contents	Page
Appendix-1 Member List of Survey Team	A-1
Appendix-2 Survey Schedule	A-3
Appendix-3 Member List of Party Concerned in the Recipient Country	A-6
Appendix-4 Minutes of Discussion	A-8
Appendix-5 Extract of STCW Convention	A-21
Appendix-6 Design Wave Computation Results	A-26

## List of Figures

Figure No.	Title	Page
Fig. A-8-1	Hourly Wind Velocity by Extreme Statistics Analysis	A-28
Fig. A-8-2	Wind Generation process and Estimated Wave Height by SMB Method	A-29
Fig. A-8-3	Prediction Curves for Wind Waves by SMB Method	A-29
Fig. A-8-4	Equivalent Deepwater Wave Height Distribution (Wave Direction: NW)	A-32
Fig. A-8-5	Nearshore Wave Direction (Wave Direction: NW)	A-33
Fig. A-8-6	Equivalent Deepwater Wave Height Distribution (Wave Direction: W)	A-34
Fig. A-8-7	Nearshore Wave Direction (Wave Direction: W)	A-35
Fig. A-8-8	Equivalent Deepwater Wave Height Distribution (Wave Direction: SW)	A-36
Fig. A-8-9	Nearshore Wave Direction (Wave Direction: SW)	A-37
Fig. A-8-10	Diagrams for the Estimation of Wave Height in the Surf Zone	A-38
Fig. A-8-11	Diagrams for the Estimation of Wave Setup in the Surf Zone	A-38

## List of Tables

Table No.	Title	Page
Table A-8-1	Maximum Wind Velocity at Hasanuddin Airport and Hourly Average Wind Velocities on Sea	A-27
Table A-8-2	Computation Results of the Hourly Wind Velocity	A-27
Table A-8-3	Equivalent Deepwater Wave Height of Design Wave	A-30
Table A-8-4	Significant Wave Height, Maximum Wave Height and Wave Setup	A-31



## Appendix-1 Member List of Survey Team

The Following personnel are assigned to participate in the field survey for the Project.

Name	Assignment	Position
Mr. Fujio Kuroda	Team Leader Planner	Chairman, Seamen Training Department of Navigation, Institute for Sea Training, Ministry of Transport, Government of Japan
Mr. Haruo Fujisaki	Port Facilities Planner	Director of Design Division, 5th District Port Construction Bureau, Ministry of Transport, Government of Japan
Mr. Tetsuya Sumi	Grant Aid Coordinator	Deputy Director, Grant Aid Division, Economic Co-operation Bureau, Ministry of Foreign Affairs, Government of Japan
Mr. Taiji Endo	Port Facilities Engineer	Nippon Tetrapod Co., Ltd.
Mr. Akira Tanaka	Training Facilities Planner	Maritime International Cooperation Center of Japan
Mr. Yutaka Ochi	Natural Condition Surveyor	Nippon Tetrapod Co., Ltd.



The Following personnel are assigned to participate in the draft report explanation for the Project.

Name	Assignment	Position
Mr. Fujio Kuroda	Team Leader Planner	Chairman, Seamen Training Department of Navigation, Institute for Sea Training, Ministry of Transport, Government of Japan
Mr. Yasunori Makita	Port Facilities Planner	Section Chief, International Affairs Office, Ports and Harbours Bureau, Ministry of Transport, Government of Japan
Mr. Tetsuya Sumi	Grant Aid Coordinator	Deputy Director; Grant Aid Division, Economic Co-operation Bureau, Ministry of Foreign Affairs, Government of Japan
Mr. Taiji Endo	Port Facilities Engineer	Nippon Tetrapod Co., Ltd.
Mr. Akira Tanaka	Training Facilities Planner	Maritime International Cooperation Center of Japan
Mr. Yutaka Ochi	Natural Condition Surveyor	Nippon Tetrapod Co., Ltd.

## Appendix-2 Survey Schedule

### 1. Field Survey Schedule

(No. 1)

No.	Date		Day	Itinerary
1	July	4	Mon	Messrs. Endo, Tanaka; Dep. Narita 11:55, Arr. Jakarta 17:05
2		5	Tue	Visit JICA Office and JICA Expert Office of DGSC
3		6	Wed	Mr. Endo; arrangement of Field Survey, Mr. Tanaka; Lv. for Ujung Pandang
4		7	Thu	Mr. Endo; Lv. for Ujung Pandang
5		8	Fri	Visit Barombong Rating School, Explanation on Field Survey Schedule
6		9	Sat	Preparation of Boring and Topographic/Bathymetric Survey, Site Inspection
7		10	Sun	Team Meeting
8		11	Mon	Messrs. Kuroda, Fujisaki, Sumi; Dep. Narita 11:55, Arr. Jakarta 17:05, Messrs. Endo, Tanaka; Site Inspection, Supervision on Field Works
9		12	Tue	Messrs. Kuroda, Fujisaki, Sumi; Visit JICA Office, Japanese Embassy, General Meeting at Education and Training Agency, Messrs. Endo, Tanaka; Site Inspection, Field Survey
10		13	Wed	Messrs. Kuroda, Fujisaki, Sumi; Lv. for Ujung Pandang, Visit Consulate General of Japan, Messrs. Endo, Tanaka; Site Inspection, Field Survey, Messrs. Tsubo, Sasaki, Abe of JICA Expert Arr. for Ujung Pandang, Team Meeting
11		14	Thu	General Meeting at Barombong Rating School, Site Inspection, Mr. Ochi; Dep. Narita 11:55, Arr. Jakarta 17:05
12		15	Fri	General Meeting and Discussion, Site Inspection, Mr. Ochi; Lv. for Ujung Pandang
13		16	Sat	General Meeting and Discussion on Minutes
14		17	Sun	Team Meeting, Mr. Abe of JICA Expert; Lv. Ujung Pandang
15		18	Mon	Site Inspection of Jeneberan River and Bili-bili Dam
16		19	Tue	Visit BPLP-Ujung Pandang, Messrs. Kuroda, Fujisaki, Sumi; Lv. Ujung Pandang for Jakarta, Messrs. Tsubo, Sasaki of JICA Expert; Lv. Ujung Pandang, Messrs. Endo, Tanaka, Ochi; Field Survey, Data Collection
17		20	Wed	Messrs. Kuroda, Fujisaki, Sumi; Visit JICA Office, Japanese Embassy, Signing of Minutes with Education and Training Agency, Messrs. Endo, Tanaka, Ochi; Field Survey, Data Collection
18		21	Thu	Messrs. Kuroda, Fujisaki, Sumi; Visit BPLP-Jakarta, Dep. Jakarta 23:55, Messrs. Endo, Tanaka, Ochi; Field Survey, Data Collection
19		22	Fri	Messrs. Kuroda, Fujisaki, Sumi; Arr. Narita 09:05, Messrs. Endo, Tanaka; Visit Consulate General of Japan, Lv. Ujung Pandang for Jakarta, Dep. Jakarta 23:55, Mr. Ochi; Field Survey, Data Collection
20		23	Sat	Messrs. Endo, Tanaka; Arr. Narita 09:05, Mr. Ochi; Field Survey and Data Collection

(No. 2)

No.	Date		Day	Itinerary
21	July	24	Sun	Mr. Ochi; Data Examination
22		25	Mon	Field Survey and Data Collection
23		26	Tue	Field Survey and Data Collection
24		27	Wed	Field Survey and Data Collection
25		28	Thu	Field Survey and Data Collection
26		29	Fri	Field Survey and Data Collection
27		30	Sat	Field Survey and Data Collection
28		31	Sun	Data Examination
29	Aug.	1	Mon	Field Survey and Data Collection
30		2	Tue	Field Survey and Data Collection
31		3	Wed	Field Survey and Data Collection
32		4	Thu	Field Survey and Data Collection
33		5	Fri	Field Survey and Data Collection
34		6	Sat	Field Survey and Data Collection
35		7	Sun	Data Examination
36		8	Mon	Field Survey and Data Collection
37		9	Tue	Field Survey and Data Collection
38		10	Wed	Field Survey and Data Collection
39		11	Thu	Mr. Ochi; Visit Consulate General of Japan, Lv. Ujung Pandang for Jakarta, Dep. Jakarta 23:55
40		12	Fri	Mr. Ochi; Arr. Narita 09:05

## 2. Draft Report Explanation Schedule

No.	Date		Itinerary	
1	Nov.	28	Mon	Dep. Narita 11:00, Arr. Jakarta 16:40 (except Mr. Sumi)
2		29	Tue	Visit JICA Office, Japanese Embassy, Explanation and Discussion on Draft Report at Education and Training Agency
3		30	Wed	Mr. Sumi Arr. at Jakarta, Team Meeting, Dep. Jakarta 18:20, Arr. Ujung Pandang 21:30
4	Dec.	1	Thu	Explanation and Discussion on Draft Report at Barombong Rating School
5		2	Fri	Explanation and Discussion on Draft Report and Minutes
6		3	Sat	Team Meeting, Preparation of Minutes, Data Examination
7		4	Sun	Dep. Ujung Pandang 11:15, Arr. Jakarta 12:25, Team Meeting
8		5	Mon	Discussion and Signing of Minutes with Education and Training Agency, Visit JICA Office, Japanese Embassy, Dep. Jakarta 23:30
9		6	Tue	Arr. Narita 08:20

## Appendix-3 Member List of Party Concerned in the Recipient Country

### 1. The Government of the Republic of Indonesia

#### 1.1 Education and Training Agency, Ministry of Communications

Mr. SANTO BUDIONO	Head
Drs. RAHARDJO	Secretary General
Capt. DIMAN DALI	Head, Program Division
Mr. EDI WALUYO	Head, Program Implementing Division
Mr. SRI MURYANI	Stuff. Program Division
Mr. MARGONO	Stuff. Program Division
Mr. TRI HANDOYO	Stuff. Program Division

#### 1.2 Maritime Education and Training Center

Capt. HARIONA JUNADA	Head
H.B.T SINAMBELA	Project Manager
Mr. POERWANTO	Planning Division
Mr. SUPARWO	Planning Subdivision

#### 1.3 Barombong Raiting School (BPLPD, BAROMBONG)

Capt. E.W. MANIKOME	Principal
Capt. Y.B. SETIYAWAN	Head of General Affairs
Drs. RUSLI WAJID	Head of Correspondence Division
Drs. ANDARIAS T.	Head of Financial Division
Mr. M. CHAIRUL DJOHANSYAH	Head of Household Division
Drs. M.T. USEMAHU	Battalion Officer
Drs. VICTOR SILITONGA	Head of Education Department
Mr. INDRA PRIYATNA	Head of Education Administration Division
Mr. BANBANG POERNOMO	Head of Education Guidance and Library Division
Capt. P. TARIGAN S.	Head of Training Equipment, Facilities and Sea Project
Mr. SIRAJUDDIN ARMAYN	Stuff of Sea Project
Mr. A. RAISING LAHI	Chief Engineer of Training Ship
Mr. SYAMSUDDIN DJARSIK	Instructor of Training Ship
Mr. IBARAHIM	Boat House Stuff
Mr. MAHADING M.K.	Head of Deck Division
Mr. C. PALEMBANGAN	Head of Engine Division
Mr. M. LARANG B.A.	Head of General Division
Mr. LUTHER ANSA	Head of Teaching Division
Mr. SYAHARIER YOSFIAH	Steering Simulator Laboratory

**1.4 Departmen Perhubungan**

**Balai.Penaiaikan Dan Latihan Pelayaran(BPLP)**

**Ujung Pandang**

**1.5 BPLP Jakarta**

**1.6 Departmen Pekerjaan Umum**

**Direkorat Jenaral Pengairan Proyek Induk PWS Jeneberang**

**IR. HARYANTO BRODJOKUSUMO Project Manager, Jeneberang River**

**Mr. WIDIARTO**

**1.7 Kepla Stasium Meteorologi, Badan Meteorologi, Dan Geofisika**

**Mr. EDI WALUYO SUTOMO Head**

**2. Private Sectors**

**Mr. M. NAKAHIRO**

**Office of Bili-Biri Multipurpose Dam Project,**

**CTI Engineering Co., Ltd.**

**Mr. M. MIGITA**

**CTI Engineering Co., Ltd.**

**Mr. M. YOSHII**

**CTI Engineering Co., Ltd.**

**Mr. S. NISHIMURA**

**WAKA-JSI-SC. Joint Operation**

Appendix-4 Minutes of Discussion

MINUTES OF DISCUSSIONS  
BASIC DESIGN ON THE PROJECT FOR  
THE IMPROVEMENT OF THE BAROMBONG RATING SCHOOL  
IN  
THE REPUBLIC OF INDONESIA

In response to request from the Government of the Republic of Indonesia, the Government of Japan decided to conduct a Basic Design Study on the Project for the IMPROVEMENT OF THE BAROMBONG RATING SCHOOL (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (JICA).

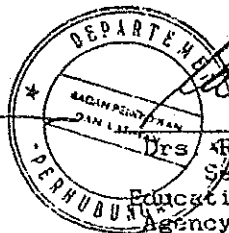
JICA sent to Indonesia a study team, which is headed by Capt. Fujio Kuroda, Chairman, Department of Navigation, Institute for Sea Training, Ministry of Transport, July 4 to August 11, 1994.

The team held discussions, with the officials concerned of the Government of Indonesia and conducted a field survey at the study area.

In the course of discussions and field survey, both parties have confirmed the main items described on the attached sheets. The team will proceed to further works and prepare the Basic Study Report.

Jakarta, July 20, 1994.

*Fujio Kuroda*  
Capt. FUJIO KURODA  
Leader  
Basic Design Team  
JICA



*Drs. RAHARDJO*  
Drs. RAHARDJO, MSc.  
Secretary of  
Education and Training  
Agency, Ministry of  
Communications

## ATTACHMENT

### 1. Objective

The objective of the Project is to improve facilities and equipments of the Barombong Rating School for cutter training and survival training in Indonesia.

### 2. Project sites

The site of the Project is located in the existing site of the Barombong Rating School, Ujung Pandang-South Sulawesi. (Project area and site map is attached as ANNEX-II)

### 3. Executing Organization

Ministry of Communications is responsible for the administration and execution of the Project.

### 4. Project Components

After discussions, both parties have selected the following items for the basic design study of the Project.

- (1) Construction of new jetty for cutter training.
- (2) Construction of new boat house.
- (3) Construction of survival training pool and related facilities.
- (4) Re-formation of the existing boat house for lecture room.
- (5) Installation of transportation facility of cutter boat including launching devices.
- (6) Installation of boat davit and jumping platform on the pool, and provision of open type life boat.

However, the final components of the Project will be decided after further studies.

### 5. Japan's Grant Aid System

- (1) The Government of Indonesia has understood the system of Japanese Grant Aid explained by the team.
- (2) The Government of Indonesia will take necessary measures, described in ANNEX - I for smooth implementation of the Project, on condition that the Grant Aid Assistance by the Government of Japan is extended to the Project.





6. Schedule of the study

(1) The consultants will proceed to further studies in Indonesia until August 11.

(2) JICA will prepare the draft final report of the Project in English, and dispatch a mission in order to explain its contents to the Government of Indonesia around October, 1994.

(3) The Government of Indonesia will execute necessary survey and decide site of fresh water resources for survival training pool by October, 1994.

(4) In case that the contents of the draft final report is accepted in principle by the Government of Indonesia, JICA will complete the final report and send it to the Government of Indonesia around January, 1995.



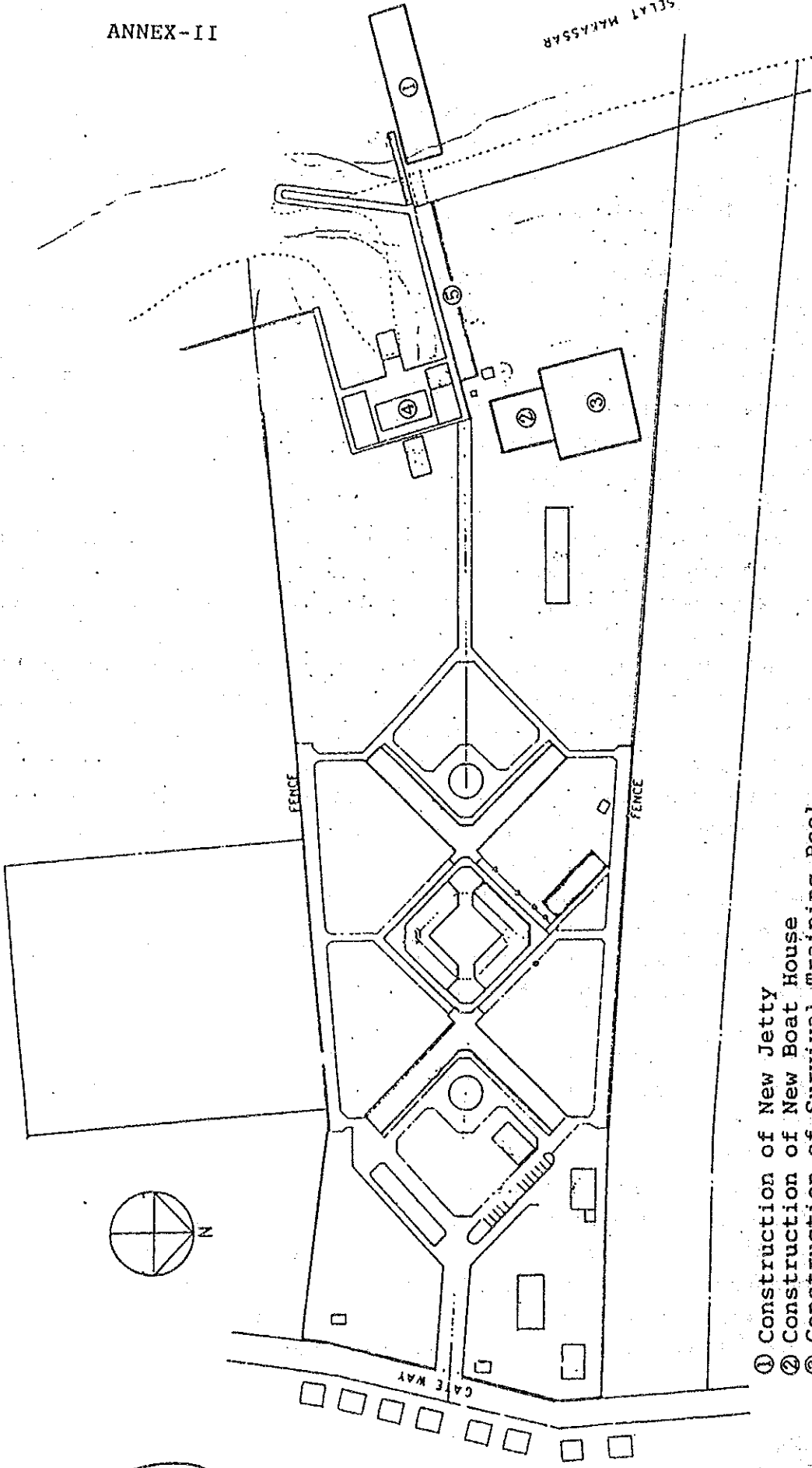
ANNEX I

Necessary measures to be taken by the Government of Indonesia in case Japan's Grant Aid is executed.

1. To secure the site for the Project.
2. To clear, level and reclaim the site prior to the commencement of the construction.
3. To undertake incidental outdoor works such as gardening, fencing, gates and exterior lightening in and around the site.
4. To construct the access road to the site prior to the commencement of the construction.
5. To provide facilities for distribution of electricity, water supply, telephone, drainage, sewage and other incidental facilities to the Project site.
6. To provide general furniture such as carpets, curtains, tables, chairs and others.
7. To bear advising commissions to the Authorization to Pay(A/P) and payment commission to the Japanese foreign exchange bank for banking services based upon the Banking Arrangement(B/A).
8. To ensure prompt unloading, to exempt taxes and to take necessary measures for customs clearance of the materials and equipment brought for the project at the port of disembarkation in Indonesia.
9. To accord Japanese Nationals whose services may be required in connection with the supply of products and the services under the verified contract such facilities as may be necessary for their entry into Indonesia and stay therein for the performance of their work.
10. To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in Indonesia with respect to the supply of the products and services under the verified contracts.
11. To maintain and use properly and effectively the facilities constructed and equipment purchased under the Grant.
12. To bear all the expenses other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and the installation of the equipments.
13. To secure fresh water resources for the survival training pool.



SELAT MAKASSAR



- ① Construction of New Jetty
- ② Construction of New Boat House
- ③ Construction of Survival Training Pool
- ④ Re-formation of the Existing Boat House
- ⑤ Installation of Transportation Facility

Overall Layout

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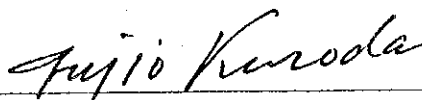
MINUTES OF DISCUSSIONS  
BASIC DESIGN STUDY ON THE PROJECT FOR IMPROVEMENT OF  
THE BAROMBONG RATING SCHOOL  
IN THE REPUBLIC OF INDONESIA  
(CONSULTATION ON DRAFT REPORT)

In July 1994, the Japan International Cooperation Agency (JICA) dispatched a Basic Design Study team on the Project for Improvement of the Barombong Rating School (hereinafter referred to as "the Project") to Indonesia, and through discussions, field survey, and technical examination of the results in Japan, has prepared the draft report of study.

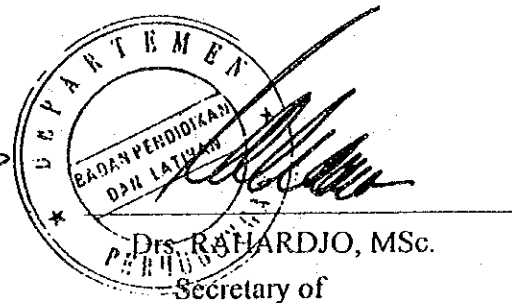
In order to explain and to consult the Indonesian side on the components of the draft report, JICA sent to Indonesia a study team, which is headed by Capt. Kuroda, Chairman, Department of Navigation, Institute for Sea Training, Ministry of Transport, and is scheduled to stay in the country from November 28 to December 5, 1994.

As a result of discussions, both parties confirmed the main items described on the attached sheets.

Jakarta, December 5, 1994

  
\_\_\_\_\_  
Capt. Fujio KURODA

Leader  
Draft Report Explanation Team,  
JICA

  
\_\_\_\_\_  
Drs. RAHARDJO, MSc.

Secretary of  
Education and Training Agency,  
Ministry of Communications

## ATTACHMENT

### 1. Components of Draft Report

The Government of Indonesia has agreed and accepted in principle the components of the Draft Report proposed by the team, following items.

- (1) Construction of new jetty for cutter training.
- (2) Construction of new boat house.
- (3) Construction of survival training pool and related facilities.
- (4) Re-formation of existing boat house for lecture room.
- (5) Installation of transportation facility of cutter boat including launching devices.
- (6) Installation of boat davit and jumping platform on the pool, and provision of open type life boat.

### 2. Project Site

The Project site is located as shown in ANNEX-1

### 3. Characteristics of the Japan's Grant Aid Programme

The Indonesian side has understood the system and characteristics of Japan's Grant Aid Programme explained by the team as shown in ANNEX-2.

### 4. Necessary Measures to be taken by the Indonesian Side

The Government of Indonesia will take necessary measures described in ANNEX-3 for smooth implementation of the Project on condition that the Grant Aid by the Government of Japan is extended to the Project.

### 5. Further Schedule of the Study

The team will make the final report in accordance with the confirmed items, and send it to the Government of Indonesia by the end of January 1995.

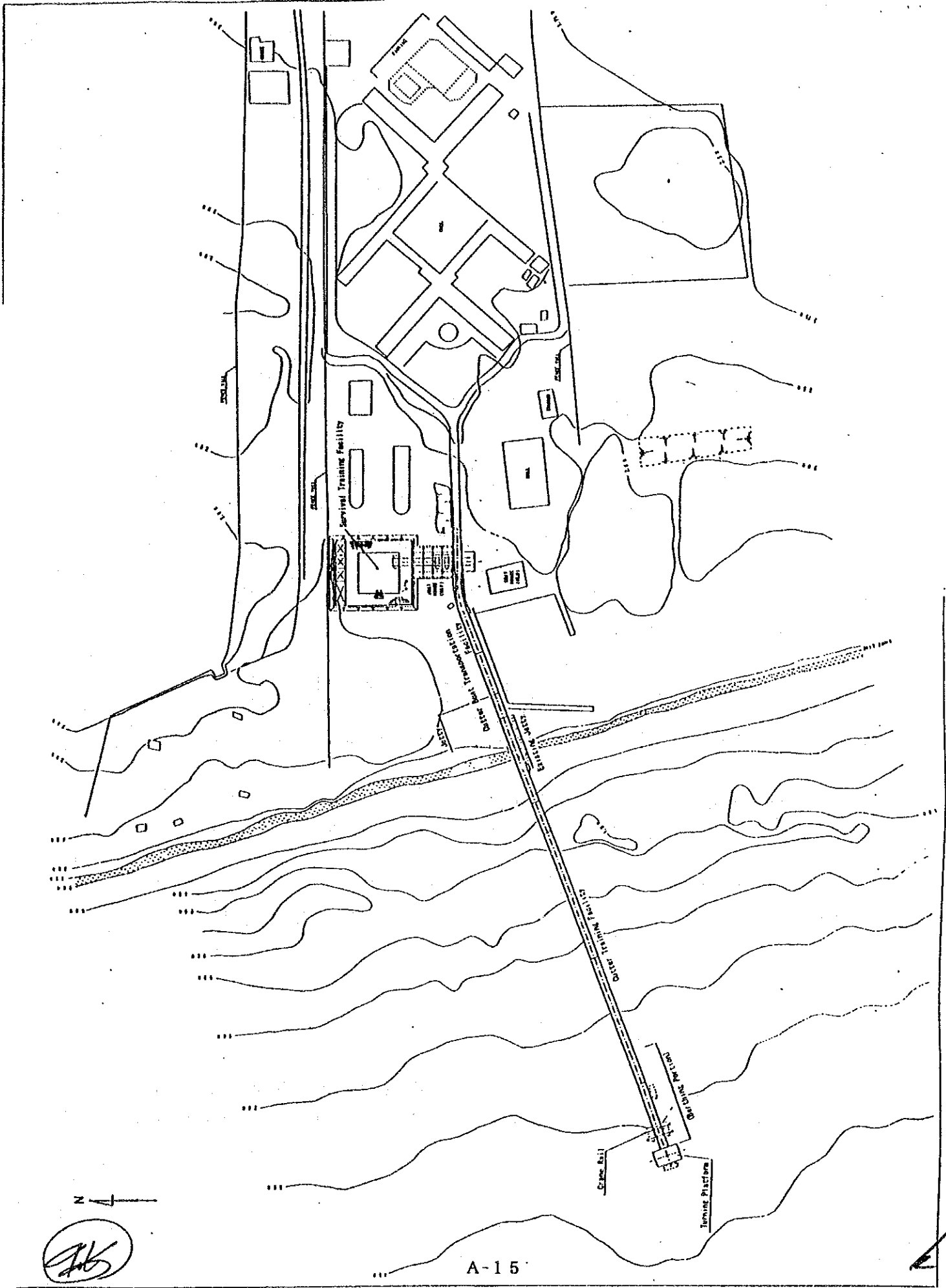
### 6. Other Relevant Issues

(1) The government of Indonesia is strongly requested to drill new well necessary for supplying fresh water to the survival training facility by the end of completion of the Project.

(2) The government of Indonesia is also requested to execute test boring and decide the site for new well by the end of February, 1995.



ANNEX-I Location of the Project Site



## ANNEX-2 Japan's Grant Aid Programme

### 1. Japan's Grant Aid Procedures

The Japan's Grant Aid Programme is extended in the following procedures.

- 1) \* Application ( A request made by the recipient country )
  - \* Study ( Basic Design Study conducted by JICA )
  - \* Appraisal & Approval ( Appraisal by the Government of Japan and Approval by the Cabinet of Japan )
  - \* Determination of Implementation (Exchange of Notes between both Governments )
  - \* Implementation (Implementation of the Project)

2) At the first step, application, a request made by the recipient country, is examined by the Government of Japan (the Ministry of Foreign Affairs), whether or not it is suitable for Grant Aid. If the request is confirmed that it has the high priority as the Project for Grant Aid, the Government of Japan instructs JICA to conduct the Study.

At the second step, the Study(the Basic Design Study) is conducted by JICA basically under contracts with a Japanese consulting firm to carry out.

At the third step (appraisal & approval),the Government of Japan appraise whether or not the Project is suitable for Japan's Grant Aid Programme based on the Basic Design Study report prepared by JICA and is then submitted for approval by the Cabinet of Japan.

At the fourth step, the Project approved by the Cabinet is officially determined to implement by signing the Exchange of Notes between both Governments.

In the course of implementation of the Project, JICA will take charge of expediting the execution by assisting the recipient country in terms of the procedures of tender, contract and others.

### 2. Contents of the study

#### 1) Contents of the study

The purpose of the study(the Basic Design Study), conducted by JICA, is to provide basic document necessary for the appraisal by the Government of Japan whether or not the project is viable for Japan's Grant Aid Programme.



The contents of the Study are as follows:

- a) to confirm the background of the request, objectives, effects of the Project and maintenance ability of the recipient country necessary for the implementation,
- b) to evaluate the appropriateness of the Grant Aid from the technological, social and economical points of views,
- c) to confirm the basic concept of the plan mutually agreed upon through discussion between both sides,
- d) to prepare a basic design of the Project.
- e) to estimate the rough cost of the Project,

The contents of the original request are not necessarily approved as the contents of the Grant Aid as it is. The Basic Design of the Project is confirmed considering the Japan's Grant Aid Scheme.

In the implementation of the Project, the Government of Japan requests the recipient country to take necessary measures in order to promote its self reliance. Those undertakings must be guaranteed even if the recipient implementing entity does not have jurisdiction. Therefore the implementation of the Project is confirmed by all relevant organizations in the recipient country in the Minutes of Discussions.

## 2) Selection of Consultants

For the smooth implementation of the Basic Design Study, JICA selects a consultant among those consultants who registered to JICA by evaluating proposals submitted by those consultants. The selected consultant carries out the Study and prepares a report based upon the terms of reference made by JICA.

At the stage of implementation after the Exchange of Notes, for concluding the contract regarding the Detailed Design and Construction Supervision of the Project between a consultant and the recipient country, JICA recommends the same consultant which participated in the Basic Design Study to the recipient country in order to maintain the





technical consistency and continuity between the Basic Design Study and the Detailed Design as well as to avoid undue delay caused by the selection of a new consultant.

### 3. Japan's Grant Aid Scheme

#### 1) What's is Grant Aid?

The Grant Aid Programme provides the recipient country with non reimbursable funds needed to procure facilities, equipment and services (labor or transportation, etc.) for economic and social development in the country under the following principles in accordance with the relevant laws and regulations of Japan. The Grant Aid is not extended in a form of donation in kind to the recipient country.

#### 2) Exchange of Notes (E/N)

The Japan's Grant Aid is extended in accordance with the Exchange of Notes between both Governments, in which the Objectives of the Projects, Period, Conditions and Amount of the Grant etc. are confirmed.

3) "The period of the Grant Aid" is within the Japanese fiscal year in which the Cabinet approved the Project. Within the fiscal year, all procedure such as Exchange of Notes, concluding contracts by the recipient country with the consultant and contractor and the final payment to them must be completed.

However in case of the delay of delivery, installation or construction due to events such as weather, the period of the Grant Aid can be further extended for one fiscal year at most by mutual agreement between both Governments.

4) The Grant Aid is used properly and exclusively for the purchase of the products, in principle, of Japan or the recipient country and services of the Japanese or the recipient country's nationals. The term "Japanese nationals" means Japanese physical persons.

When both Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of the third country (other than Japan or the recipient country).



However in terms of principle of the Grant Aid, the Prime contractors, that is the Consultant, Contractor and Procurement firm, necessary for the implementation of the Grant Aid are limited to "Japanese nationals".

5) Necessity of the "Verification"

The Government of the recipient country or its designated authority will conclude the contracts in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. The "Verification" is necessary because the source of the Grant Aid is the taxes of Japanese nationals.

6) Undertakings required to the Government of the recipient country

As described in Annex-3.

7) "Proper Use"

The recipient country is required to maintain and use the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign the necessary staff for operation and maintenance of them as well as to bear all the expenses other than those to be borne by the Grant Aid.

8) "Re-export"

The products purchased under the Grant Aid shall not be re-exported from the recipient country.

9) Banking Arrangement (B/A)

a)The Government of the recipient country or its designated authority shall open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the verified.

b)The payments will be made when requested by the Bank to the Government of Japan under an Authorization to Pay(A/P) issued by the Government of the recipient country or its designated authority.



ANNEX-3

Necessary measures to be taken by the Government of Indonesia in case Japan's Grant Aid is executed.

1. To secure the site for the Project.
2. To clear, level and reclaim the site prior to the commencement of the construction.
3. To undertake incidental outdoor works such as gardening, fencing, gates and exterior lighting in and around the site.
4. To construct the access road to the site prior to the commencement of the construction.
5. To provide facilities for distribution of electricity, water supply, telephone, drainage, sewage and other incidental facilities to the Project site.
6. To provide general furniture such as carpets, curtains, tables, chairs and others.
7. To bear advising commissions to the Authorization to Pay(A/P) and payment commission to the Japanese foreign exchange bank for banking services based upon the Banking Arrangement(B/A).
8. To ensure prompt unloading, to exempt taxes and to take necessary measures for customs clearance of the materials and equipment brought for the project at the port of disembarkation in Indonesia.
9. To accord Japanese Nationals whose services may be required in connection with the supply of products and the services under the verified contract such facilities as may be necessary for their entry into Indonesia and stay therein for the performance of their work.
10. To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in Indonesia with respect to the supply of the products and services under the verified contracts.
11. To maintain and use properly and effectively the facilities constructed and equipment purchased under the Grant.
12. To bear all the expenses other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and the installation of the equipments.



Appendix-5 Extract of STCW Convention

RESOLUTION 19

TRAINING OF SEAFARERS IN PERSONAL SURVIVAL TECHNIQUES

THE CONFERENCE,

CONSIDERING the need to train all crew members in personal survival techniques,  
RECOGNIZING that such training would enhance their chance of survival at sea during emergency situations,

RESOLVES:

- (a) to adopt the Recommendation on Training of Seafarers in Personal Survival Techniques, annexed to this Resolution;
- (b) to urge all Governments concerned to give effect to the contents of the Recommendation as soon as practicable,

INVITES the Inter-Governmental Maritime Consultative Organization:

- (a) to keep this Recommendation under review in consultation or association with other international organizations as appropriate, particularly with the International Labour Organization, and to bring any future amendments to the attention of all Governments concerned;
- (b) to communicate this Resolution to all Governments invited to the Conference.

## ANNEX

### RECOMMENDATION ON TRAINING OF SEAFARERS IN PERSONAL SURVIVAL TECHNIQUES

Every prospective seafarer should, before being employed in a sea-going ship, receive approved training in personal survival techniques. In respect of such training, the following recommendations are made:

1. Every prospective seafarer should be instructed in the following:
  - (a) types of emergencies which may occur, such as collisions, fire and foundering;
  - (b) types of life-saving appliances normally carried on ships;
  - (c) need to adhere to the principles of survival;
  - (d) value of training and drills;
  - (e) need to be ready for any emergency and to be constantly aware of:
    - (i) the information in the muster list, in particular:
      - (1) his specific duties in any emergency;
      - (2) his own survival craft station;
      - (3) the signals calling all crew to their survival craft or fire stations;
    - (ii) location of his own and spare life-jackets;
    - (iii) location of fire alarm controls;
    - (iv) means of escape;
    - (v) consequences of panic;
  - (f) actions to be taken when called to survival craft stations, including:
    - (i) putting on suitable clothing;
    - (ii) donning life-jacket;
    - (iii) collecting additional protection such as blankets, time permitting;
  - (g) actions to be taken when required to abandon ship, such as:
    - (i) how to board survival craft from ship and water;
    - (ii) how to jump into the sea from a height and reduce the risk of injury when entering the water;
  - (h) actions to be taken when in the water, such as:
    - (i) how to survive in circumstances of:
      - (1) fire or oil on the water;
      - (2) cold conditions;
      - (3) shark-infested waters;
    - (ii) how to right a capsized survival craft;

- (i) actions to be taken when aboard a survival craft, such as:
    - (i) getting the survival craft quickly clear of the ship;
    - (ii) protection against cold or extreme heat;
    - (iii) using a drogue or sea anchor;
    - (iv) keeping a look-out;
    - (v) recovering and caring for survivors;
    - (vi) facilitating detection by others;
    - (vii) checking equipment available for use in the survival craft and using it correctly;
    - (viii) remaining, so far as possible, in the vicinity;
  - (j) main dangers to survivors and the general principles of survival, including:
    - (i) precautions to be taken in cold climates;
    - (ii) precautions to be taken in tropical climates;
    - (iii) exposure to sun, wind, rain and sea;
    - (iv) importance of wearing suitable clothing;
    - (v) protective measures in survival craft;
    - (vi) effects of immersion in water and of hypothermia;
    - (vii) importance of preserving body fluids;
    - (viii) protection against seasickness;
    - (ix) proper use of fresh water and food;
    - (x) effects of drinking sea water;
    - (xi) means available for facilitating detection by others;
    - (xii) importance of maintaining morale.
2. Every prospective seafarer should be given practical instruction in at least the following:
- (a) wearing a life-jacket correctly;
  - (b) entering the water from a height wearing a life-jacket;
  - (c) swimming while wearing a life-jacket;
  - (d) keeping afloat without a life-jacket;
  - (e) boarding liferafts from ship and water while wearing a life-jacket;
  - (f) assisting others to board survival craft;
  - (g) operation of survival craft equipment including basic operation of portable radio equipment;
  - (h) streaming a drogue or sea anchor.

## CHAPTER VI

### PROFICIENCY IN SURVIVAL CRAFT

#### Regulation VI/1

#### MANDATORY MINIMUM REQUIREMENTS FOR THE ISSUE OF CERTIFICATES OF PROFICIENCY IN SURVIVAL CRAFT

Every seafarer to be issued with a certificate of proficiency in survival craft shall:

- (a) be not less than 17½ years of age;
- (b) satisfy the Administration as to medical fitness;
- (c) have approved sea-going service of not less than 12 months or have attended an approved training course and have approved sea-going service of not less than nine months;
- (d) satisfy the Administration by examination or by continuous assessment during an approved training course that he possesses knowledge of the contents of the Appendix to this Regulation;
- (e) demonstrate to the satisfaction of the Administration by examination or by continuous assessment during an approved training course that he possesses the ability to:
  - (i) don a life-jacket correctly; safely jump from a height into the water; board a survival craft from the water while wearing a life-jacket;
  - (ii) right an inverted liferaft while wearing a life-jacket;
  - (iii) interpret the markings on survival craft with respect to the number of persons they are permitted to carry;
  - (iv) make the correct commands required for launching and boarding the survival craft, clearing the ship and handling and disembarking from the survival craft;
  - (v) prepare and launch survival craft safely into the water and clear the ship's side quickly;
  - (vi) deal with injured persons both during and after abandonment;
  - (vii) row and steer, erect a mast, set the sails, manage a boat under sail and steer a boat by compass;
  - (viii) use signalling equipment, including pyrotechnics;
  - (ix) use portable radio equipment for survival craft.

## Appendix to Regulation VI/1

### MINIMUM KNOWLEDGE REQUIRED FOR THE ISSUE OF CERTIFICATES OF PROFICIENCY IN SURVIVAL CRAFT

1. Types of emergency situations which may occur, such as collisions, fire, foundering.
2. Principles of survival including:
  - (a) value of training and drills;
  - (b) need to be ready for any emergency;
  - (c) actions to be taken when called to survival craft stations;
  - (d) actions to be taken when required to abandon ship;
  - (e) actions to be taken when in the water;
  - (f) actions to be taken when aboard a survival craft;
  - (g) main dangers to survivors.
3. Special duties assigned to each crew member as indicated in the muster list, including the differences between the signals calling all crew to survival craft and to fire stations.
4. Types of life-saving appliances normally carried on board ships.
5. Construction and outfit of survival craft and individual items of their equipment.
6. Particular characteristics and facilities of survival craft.
7. Various types of devices used for launching survival craft.
8. Methods of launching survival craft into a rough sea.
9. Action to be taken after leaving the ship.
10. Handling survival craft in rough weather.
11. Use of painter, sea anchor and all other equipment.
12. Apportionment of food and water in survival craft.
13. Methods of helicopter rescue.
14. Use of the first aid kit and resuscitation techniques.
15. Radio devices carried in survival craft, including emergency position-indicating radio beacons.
16. Effects of hypothermia and its prevention; use of protective covers and protective garments.
17. Methods of starting and operating a survival craft engine and its accessories together with the use of fire extinguisher provided.
18. Use of emergency boats and motor lifeboats for marshalling liferafts and rescue of survivors and persons in the sea.
19. Beaching a survival craft.



## Appendix-6 Design Wave Computation Results

### 1. Design Wave Computation Procedure

Design waves for the cutter training facility (Jetty) will be computed by the following procedure.

- (1) The wind speed statistics of a period of ten years are obtained based on the wind data observed between 1984 and 1993 at Hasanuddin Air Port.
- (2) The relationship between wind duration and wind velocity is set based on the wind data, and deep water design waves in offshore area are computed by SMB Method.
- (3) Wave transformation process due to refraction, diffraction, shoaling and wave breaking are computed to seek the design wave height at the site where the cutter boat training facility will be installed.

### 2. Wind Velocity for Design Wave Computation

Three top value for the maximum wind velocity of each year are extracted from the wind data of the past ten years at Hasanuddin Air Port. The hourly average wind velocity used in wave forecasting is obtained by converting the maximum wind velocity data based on its correlation with the time average wind velocity data obtained at Kepala Stadium Meteorologi, and converting it further to the sea wind. Conversion to the sea wind is made by setting the ratio of the observed wind velocity on land to the sea wind at 0.8 in view of the fact that the airport is located at about 7 km inland and has a comparatively flat topography. The wind data and the conversion results of the hourly average wind velocity are shown on Table A-8-1.

**Table A-8-1 Maximum Wind Velocity at Hasanuddin Airport and Hourly Average Wind Velocities on Sea**

Observed Date				Maximum Wind Speed (Umax) (knot/s)	Wind Direction (N° E)	Hourly Ave. S ea Wind U (m/s)
Year	Month	day				
1984	12	13	1	35	270	15.7
	3	8	2	30	320	13.5
	1	17	3	25	330	11.2
1985	3	8	1	25	90	11.2
	11	5	2	25	180	11.2
	2	28	3	23	290	10.3
1986	1	25	1	38	300	17.1
	2	10	2	38	350	17.1
	1	26	3	36	300	16.2
1987	1	15	1	30	280	13.5
	2	20	2	28	310	12.6
	1	29	3	25	270	11.2
1988	12	14	1	22	240	9.9
	4	1	2	21	260	9.4
	3	30	3	21	270	9.4
1989	1	25	1	20	260	9.0
	3	9	2	20	310	9.0
	4	19	3	20	300	9.0
1990	10	20	1	30	250	13.5
	9	3	2	27	140	12.1
	5	3	3	22	280	9.9
1991	12	28	1	22	60	9.9
	2	23	2	20	260	9.0
	2	6	3	20	300	9.0
1992	4	9	1	22	320	9.9
	4	10	2	20	330	9.0
	8	15	3	20	300	9.0
1993	1	23	1	30	270	13.5
	12	27	2	25	250	11.2
	1	26	3	21	280	9.4

The wind velocity with a return period of N years was computed using the Weible Distribution (  $k = 1.25$  ) with the highest correlation coefficient based on the extreme statistics analysis using these wind data. The hourly wind velocity with return periods of 10, 30 and 50 years are shown below.

**Table A-8-2 Computation Results of the Hourly Wind Velocity**

Return Period	Hourly Average Wind Speed
10 Year	18 m/s
30	20 m/s
50	21 m/s

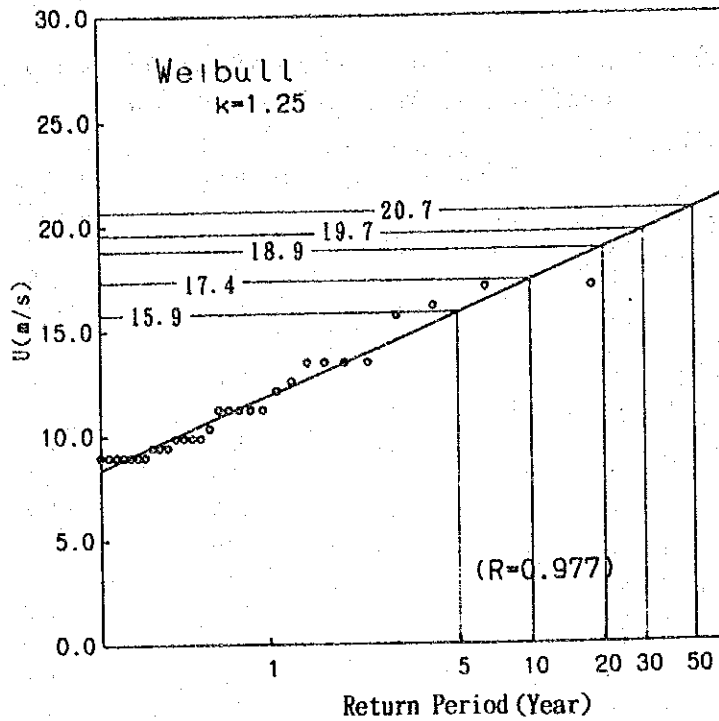


Fig. A-8-1 Hourly Wind Velocity by Extreme Statistics Analysis

### 3. Computation of Design Deepwater Waves by SMB Method

A simulated model of the wind generation process is established by using the wind data at Kepala Stadium Meteorologi, statistically processing the ratio of the wind velocity against the maximum wind velocity before and after the moment when the maximum wind velocity generated, and assuming the duration as 12 hours as shown in Fig. A-8-2. Based on this wind velocity ratio distribution, the wind generation and attenuation process is assumed with the wind velocity with a return period of 50 years at 21 m/s as the maximum hourly average wind velocity and computed using SMB Method. The deepwater wave height and period for the design wave are set as followings.

Design wave: Deepwater Wave Height	$H_o = 2.2 \text{ m}$
Period	$T = 5.5 \text{ s}$

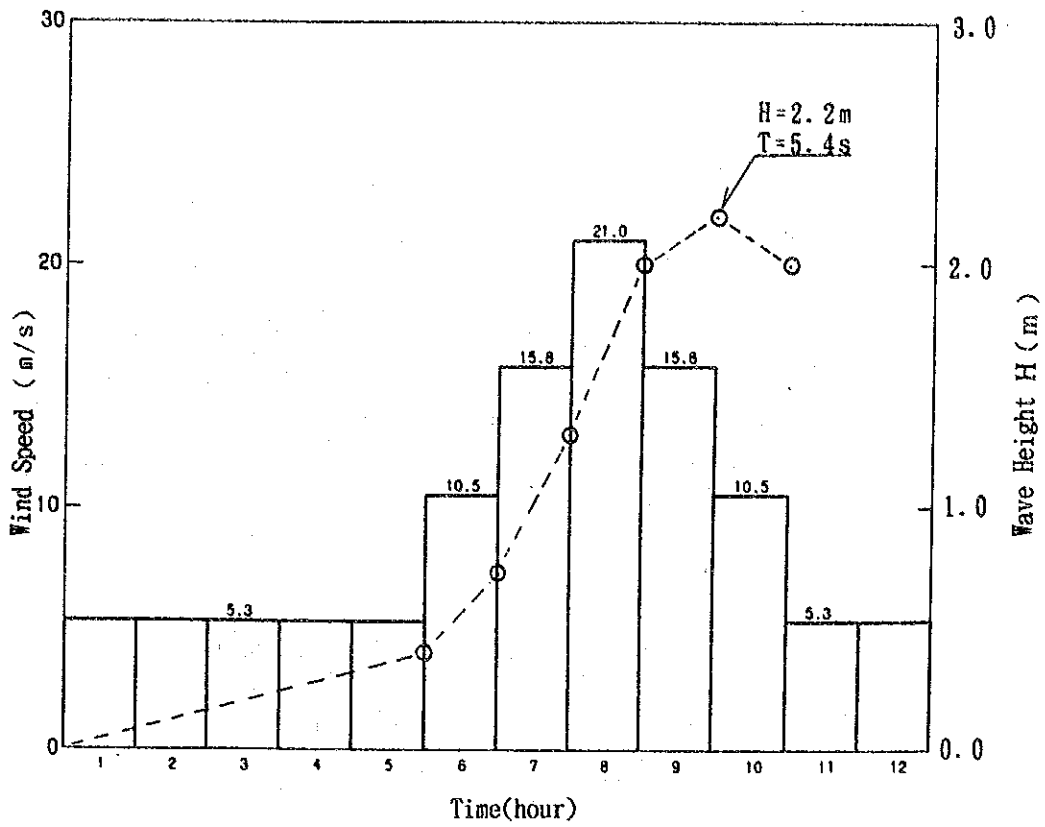


Fig. A-8-2 Wind Generation process and Estimated Wave Height by SMB Method

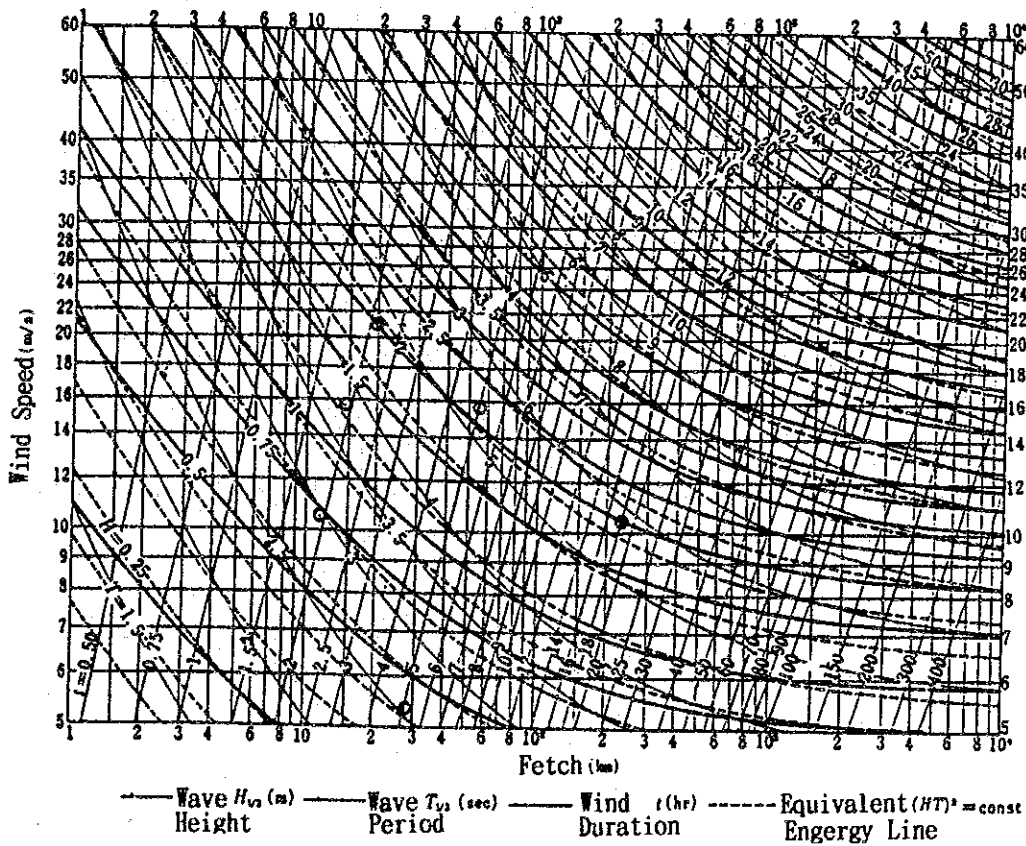


Fig. A-8-3 Prediction Curves for Wind Waves by SMB Method

#### 4. Calculation of Design Wave Height at Site

##### (1) Calculation of Equivalent Deepwater Wave Height

Transformation of design waves was calculated with the tidal level of H.W.L. ( D.L. + 1.8m ), the design deepwater waves intruded from the three directions of NW, W and SW. The result shown that the equivalent deepwater wave ( $H_o'$ ) became maximum when the wave direction was W. Fig. A-8-4 through A-8-9 show the distribution of height and direction of equivalent deepwater wave.

Table A-8-3 Equivalent Deepwater Wave Height of Design Wave

Wave Direction	Equivalent Deepwater Wave height
NW	1.8 m
W	2.0 m
SW	1.7 m

##### (2) Calculation of Design Wave Height

Based on the calculation results of equivalent offshore wave height, the design wave height and the wave setup are calculated by considering wave transformation due to wave shoaling and breaking. For calculation of significant wave height, maximum wave height and wave setup of design waves, Goda's indices shown in Fig. A-8-10 were used. The gradient of seabed slope was set at 1/50 based on the on-site bathymetric survey.

Table A-8-11 shows the design wave heights and wave setup calculated along the expected jetty extension. The design significant wave height obtained as maximum of these values is given below.

Design Significant Wave: Wave height  $H_{1/3} = 1.9$  m  
Period  $T = 5.5$  s

**Table A-8-4 Significant Wave Height, Maximum Wave Height and Wave Setup  
(Equivalent Deepwater Wave Height:  $H_0=2.0$  m, Wave Period:  $T=5.5$  s,  
Seabed Slope: 1/50)**

Depth D. L.(m)	Tide (m)	Depth h (m)	Sig. Wave $H_{1/3}$ (m)	Max. Wave $H_{max}$ (m)	Wave Setup (m)
1.0		2.8	1.66	2.18	0.04
1.5		3.3	1.78	2.48	0.03
2.0	H. W. L.	3.8	1.84	2.74	0.02
2.5		4.3	1.86	2.94	0.01
3.0	1.8 m	4.8	1.86	3.10	0.01
3.5		5.3	1.84	3.20	0.00
4.0		5.8	1.84	3.28	0.00

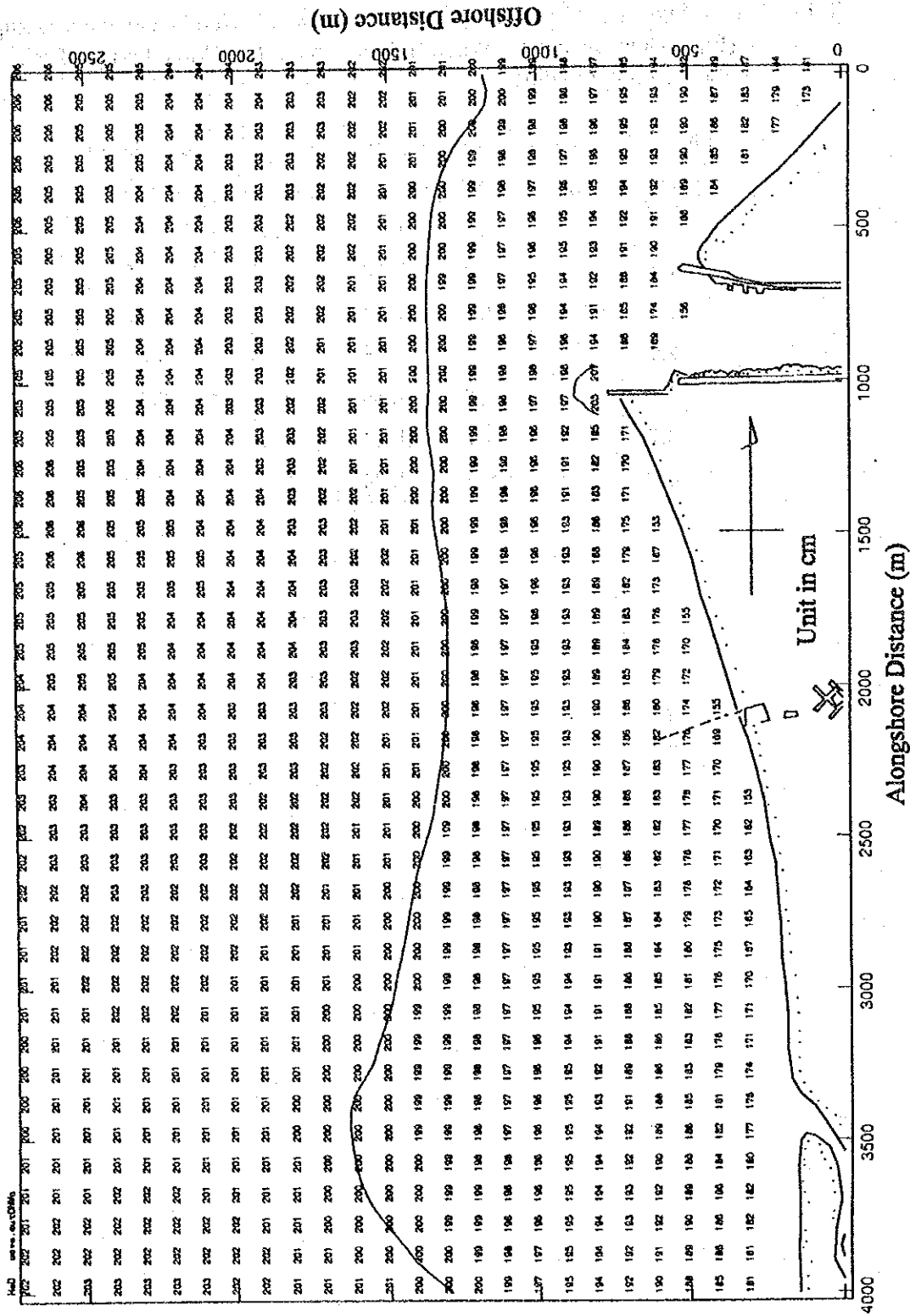


Fig. A-8-4 Equivalent Deepwater Wave Height Distribution  
 (Wave Direction: NW, Deepwater Wave Height:  $H_0=2.2$  m, Wave Period  $T=5.5$  s)

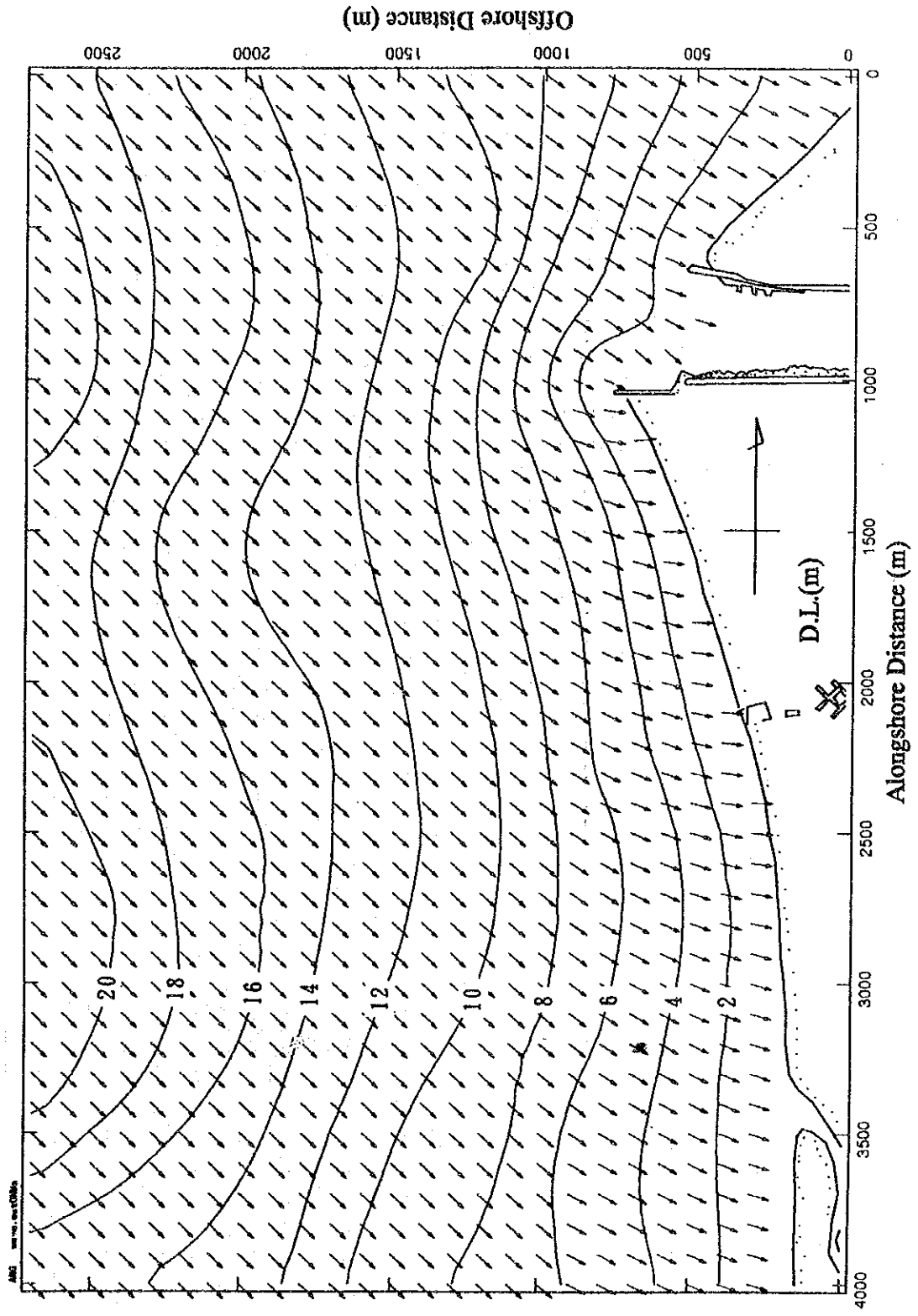


Fig. A-8-5 Nearshore Wave Direction  
 (Wave Direction: NW, Deepwater Wave Height:  $H_o = 2.2$  m, Wave Period  $T = 5.5$  s)



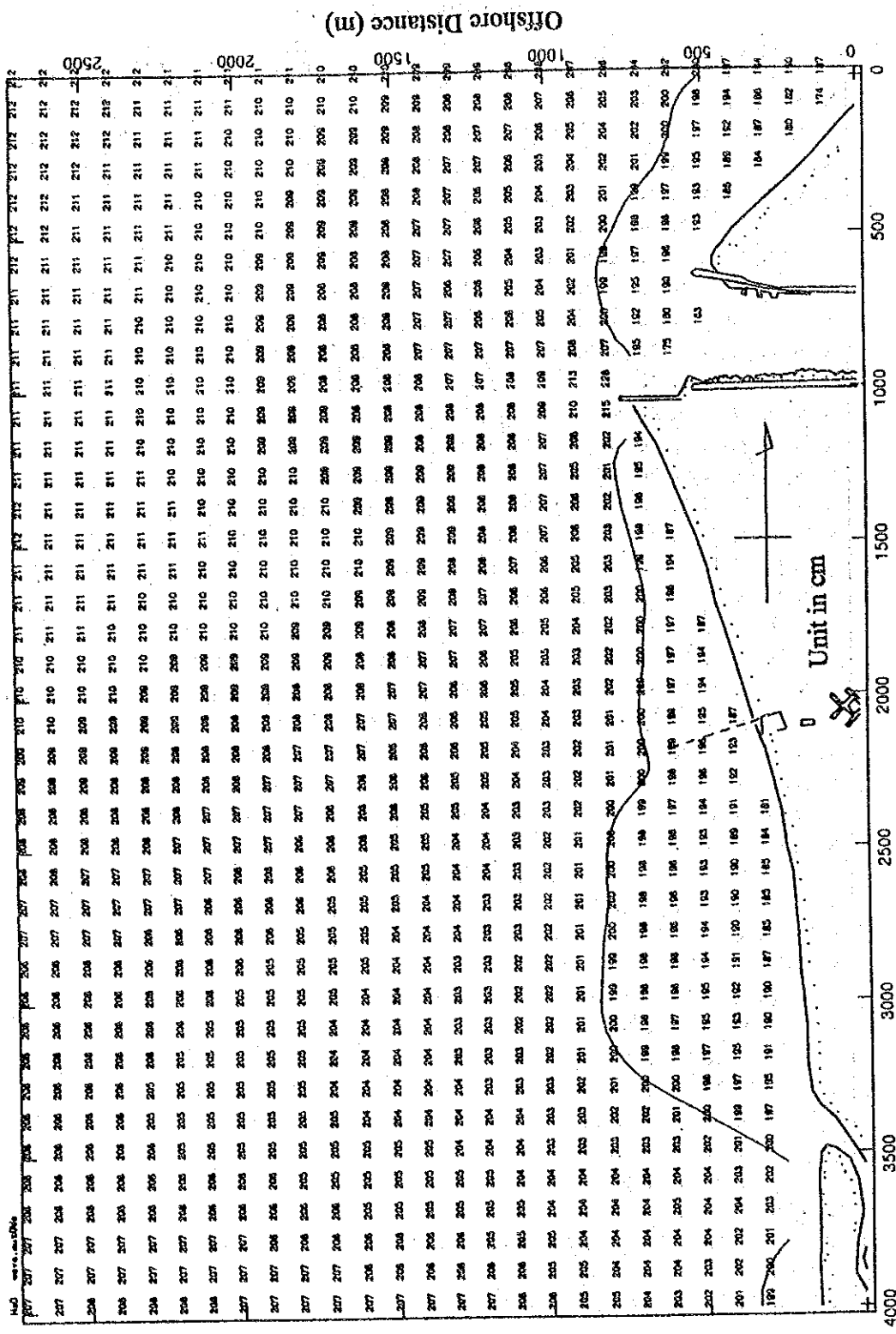


Fig. A-8-6 Equivalent Deepwater Wave Height Distribution  
 (Wave Direction: W, Deepwater Wave Height:  $H_0=2.2$  m, Wave Period  $T=5.5$  s)

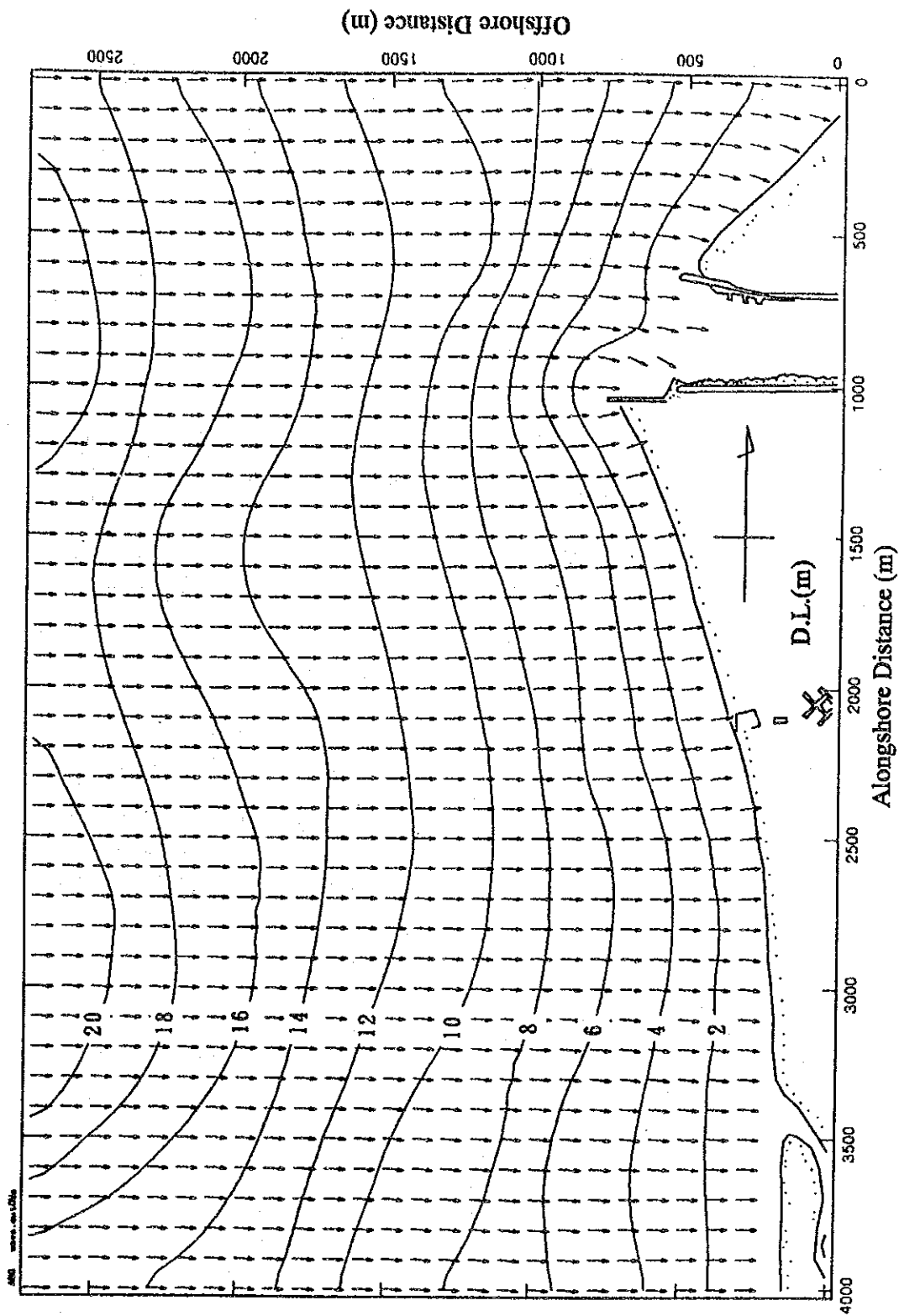


Fig. A-8-7 Nearshore Wave Direction  
 (Wave Direction: W, Deepwater Wave Height:  $H_0=2.2$  m, Wave Period  $T=5.5$  s)

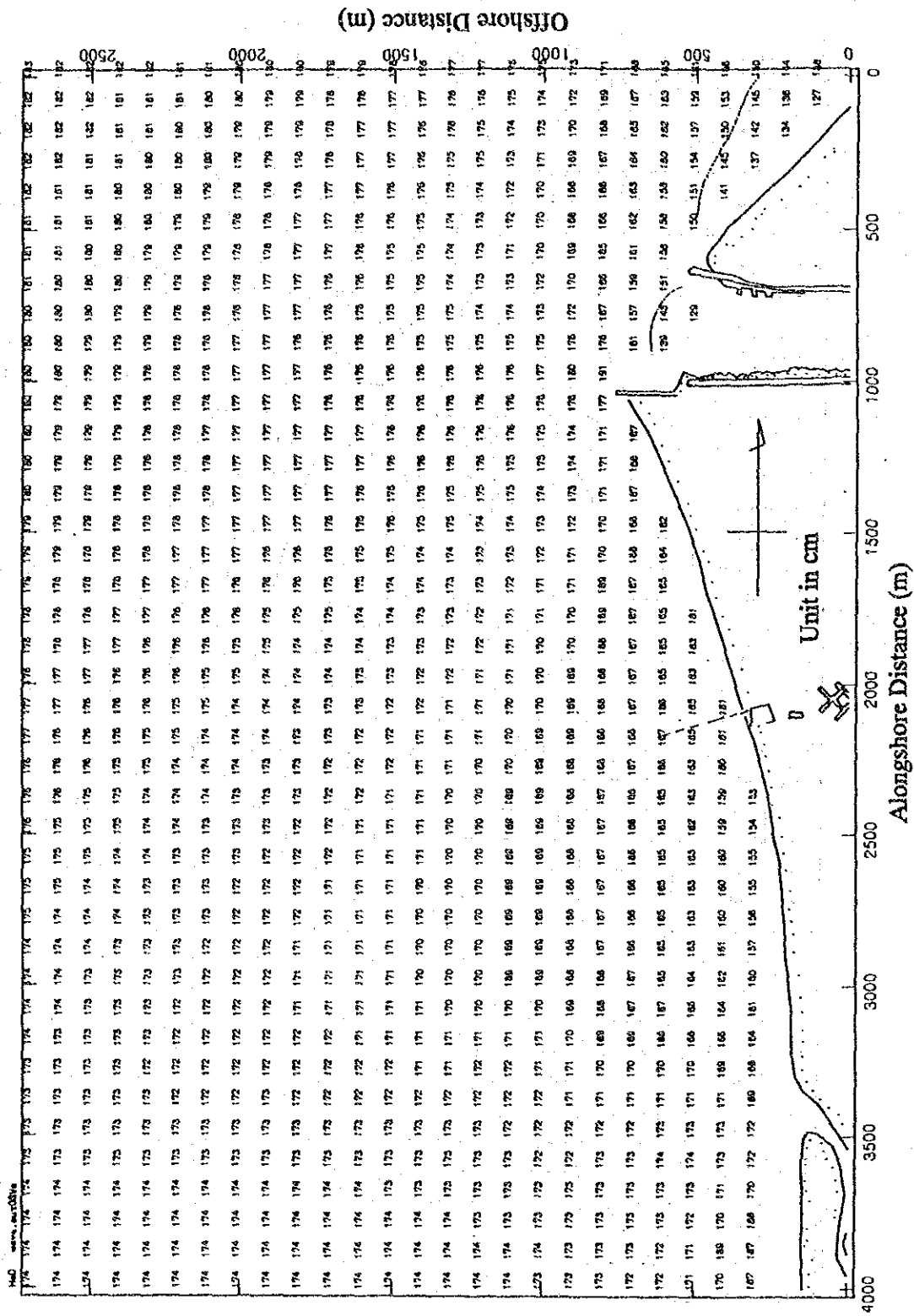


Fig. A-8-8 Equivalent Deepwater Wave Height Distribution  
 (Wave Direction: SW, Deepwater Wave Height:  $H_0=2.2$  m, Wave Period  $T=5.5$  s)

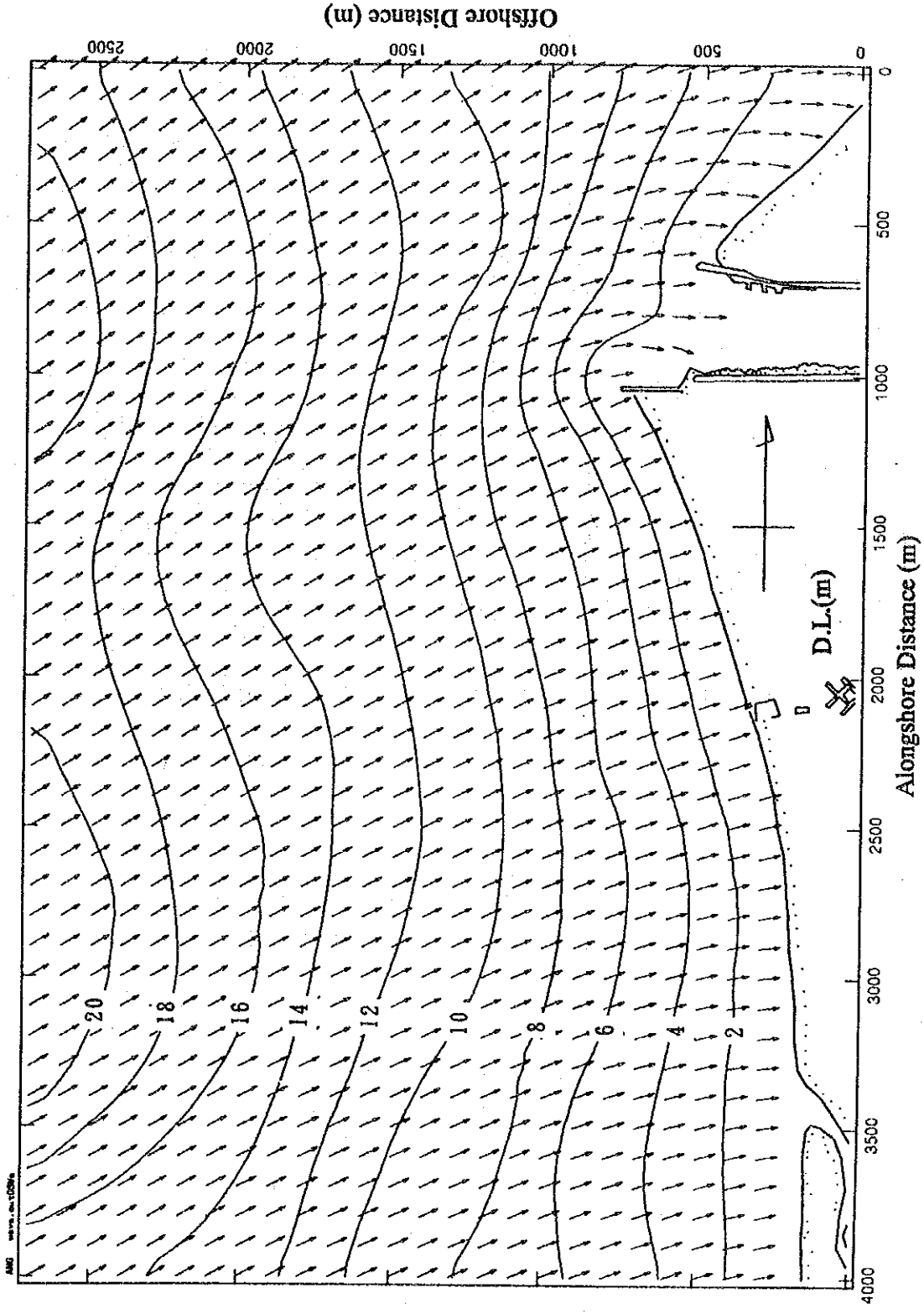


Fig. A-8-9 Nearshore Wave Direction  
 (Wave Direction: SW, Deepwater Wave Height:  $H_0=2.2$  m, Wave Period  $T=5.5$  s)

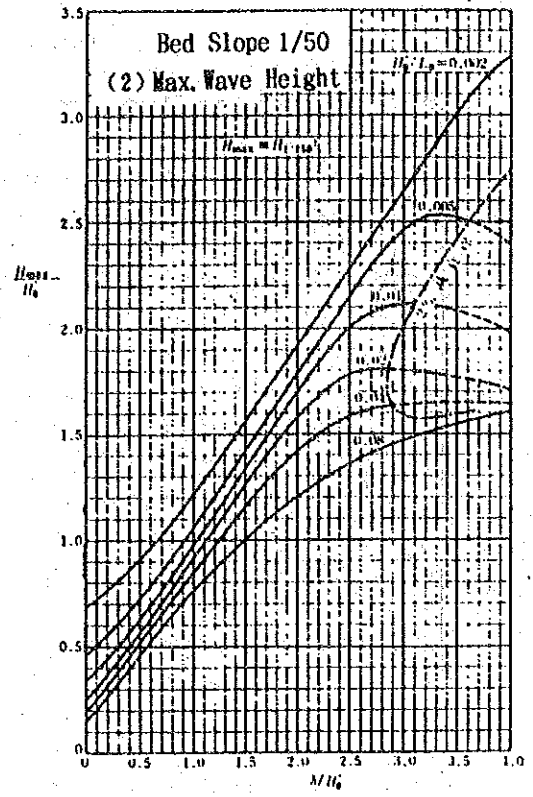
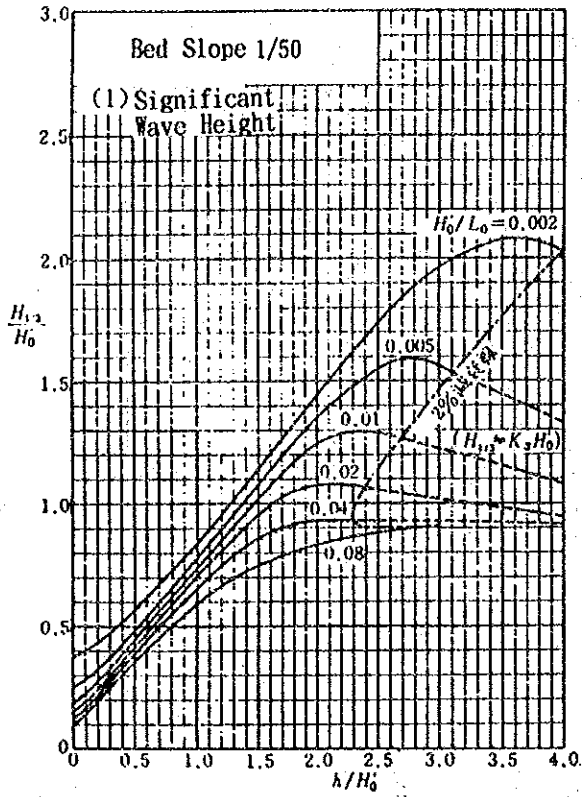


Fig. A-8-10 Diagrams for the Estimation of Wave Height in the Surf Zone

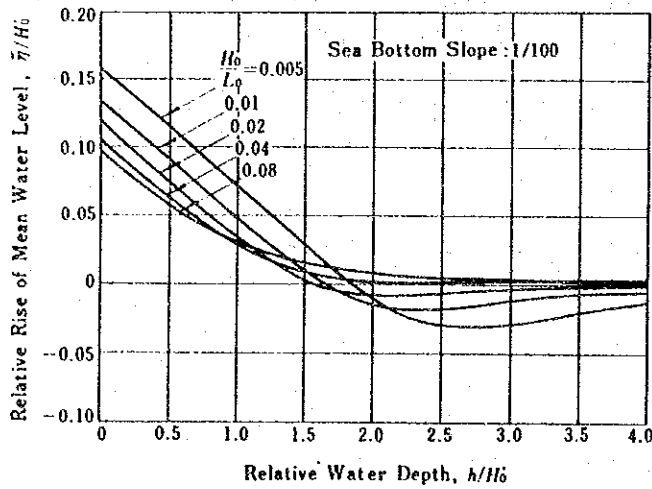


Fig. A-8-11 Diagrams for the Estimation of Wave Setup in the Surf Zone



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