

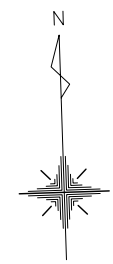
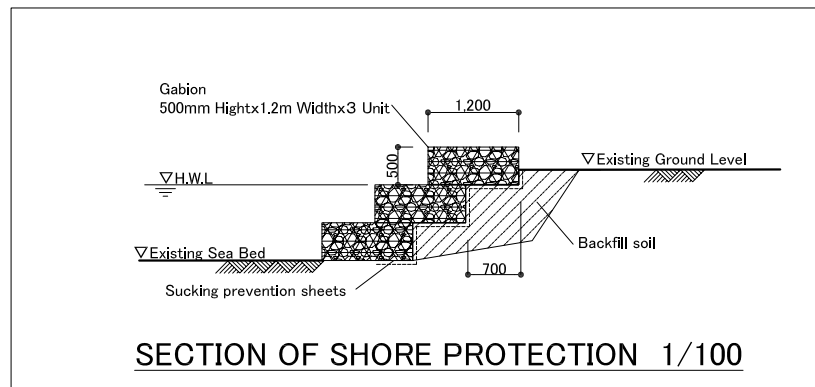
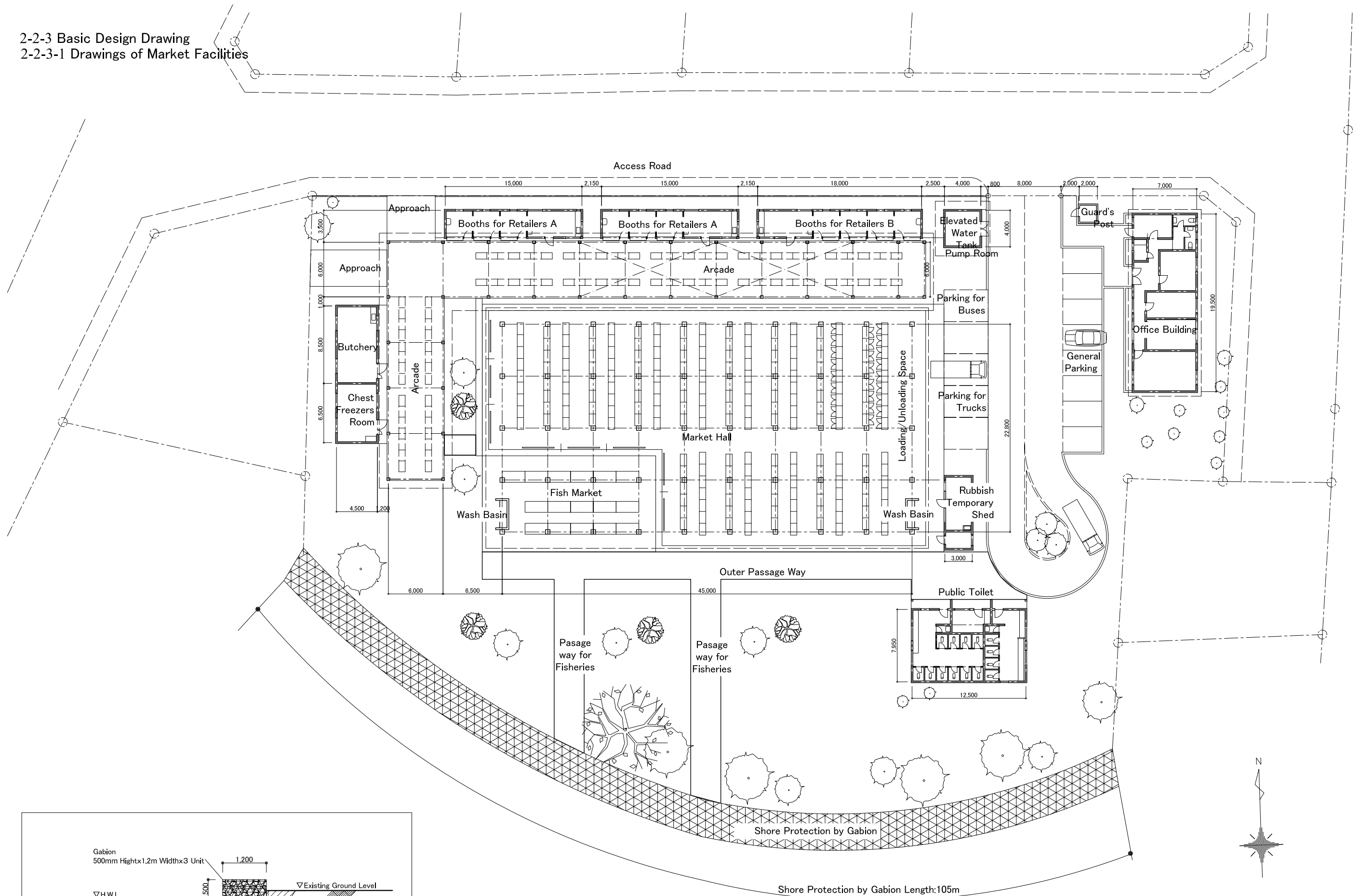
### 2-2-3 Basic Design Drawing

#### 2-2-3-1 Basic Design Drawings of the Building Facilities

- A Site Plan of Market
- B Plan of Market Hall and Arcade
- C Elevation and Section of Market Hall and Arcade
- D Plan, Elevation and Section of Other Facilities

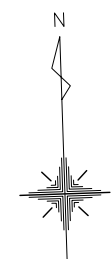
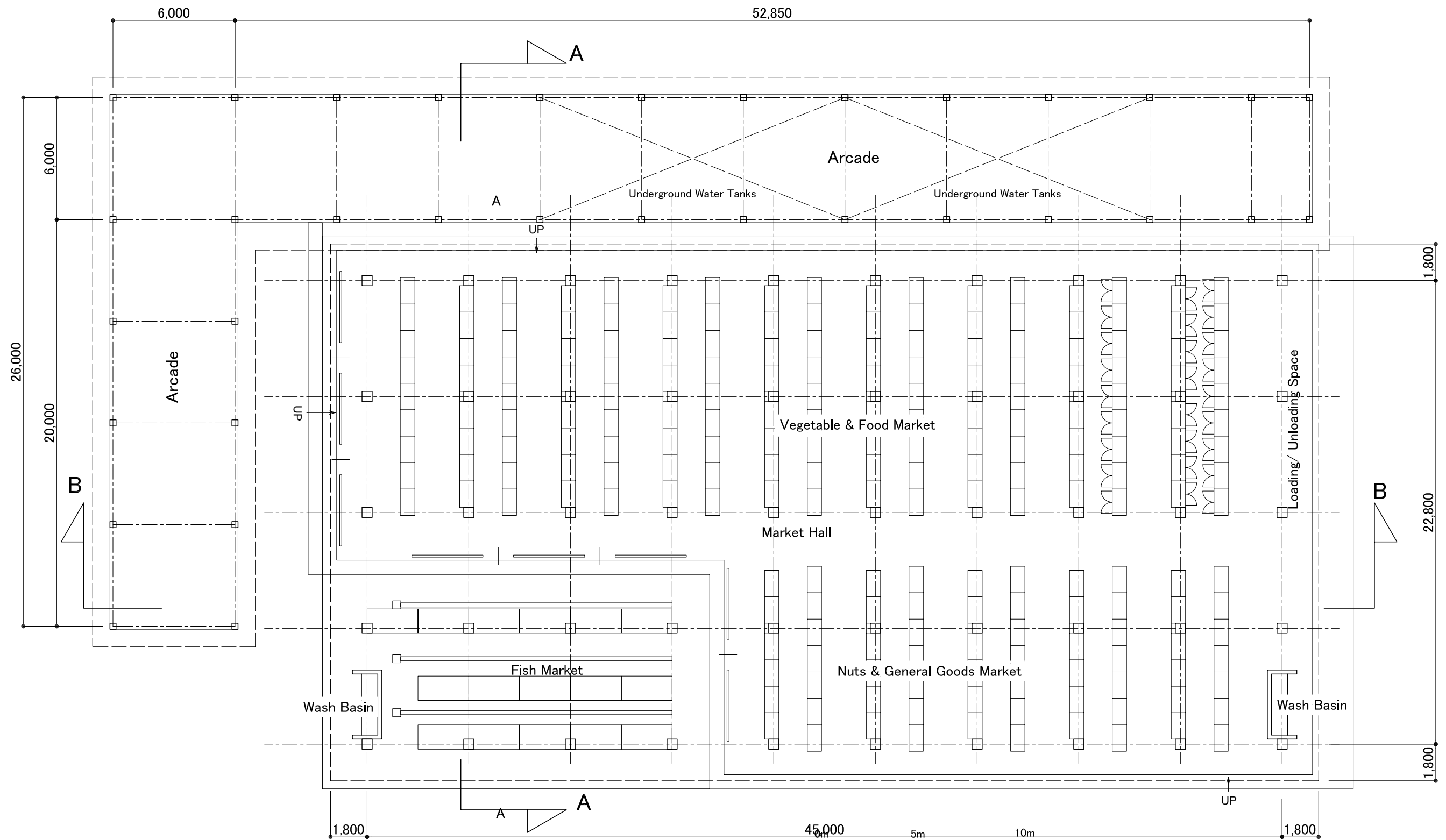
#### 2-2-3-2 Basic Design Drawings of the Civil Engineering Facilities

- E Plot Plan
- F Block Plan
- G Jetty Long Section (1/2) Main Landing Jetty
- H Jetty Long Section (2/2) Access Jetty
- I Typical Sections



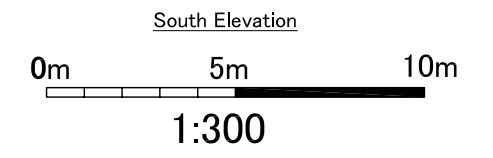
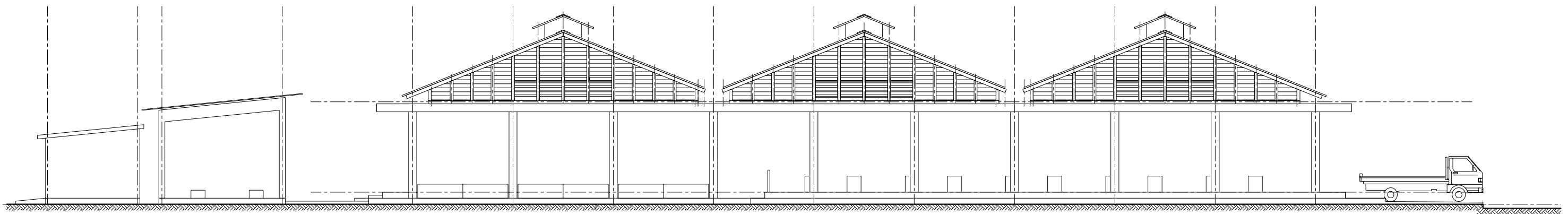
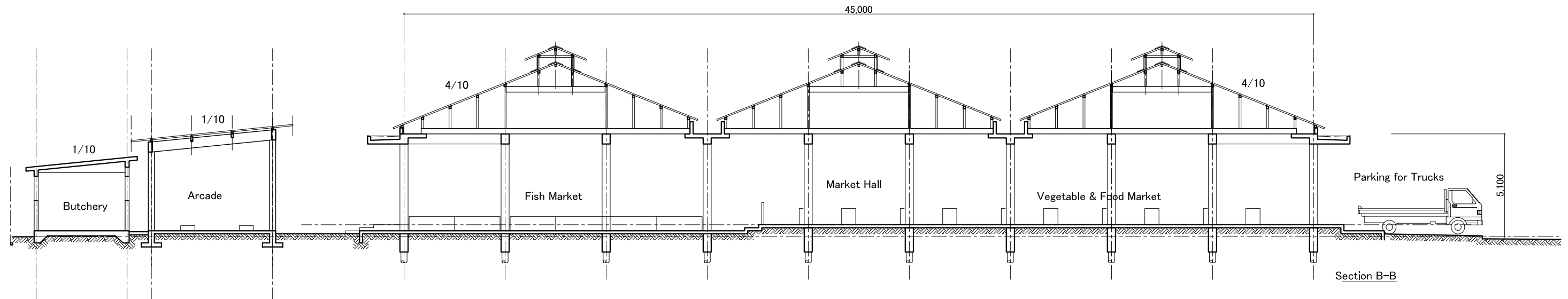
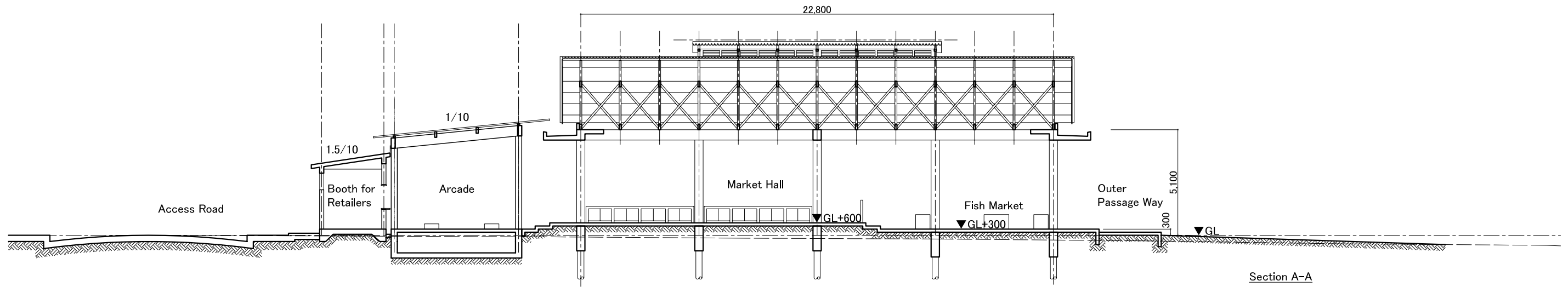
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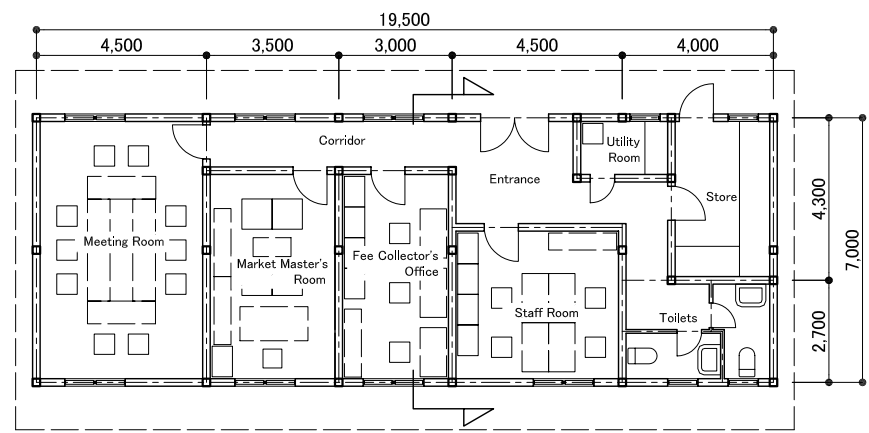
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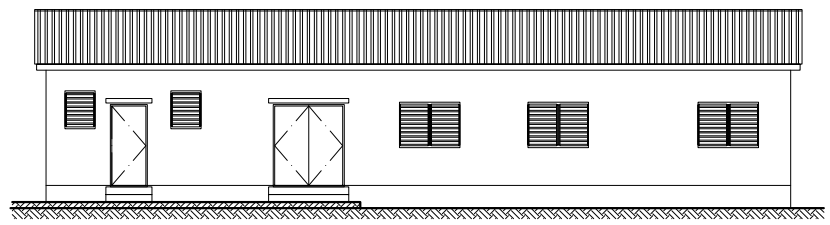
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B. PLAN OF MARKET HALL & ARCADE - 2-58 -

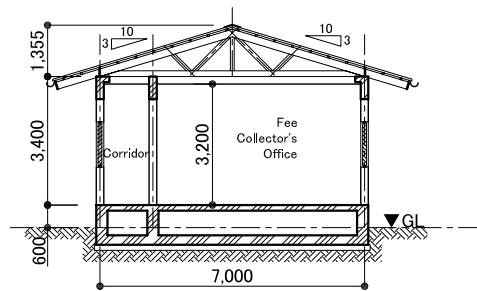




Plan

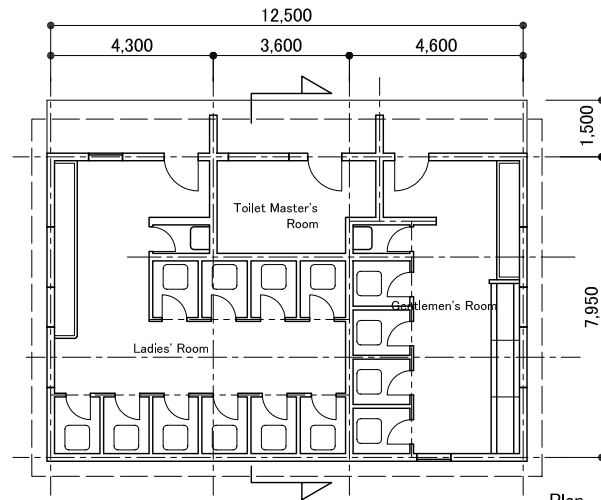


North Elevation

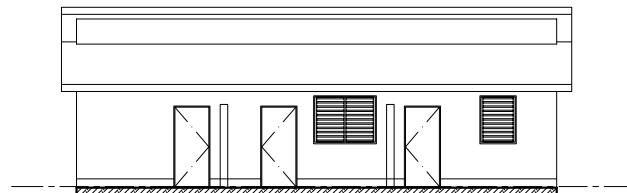


Section

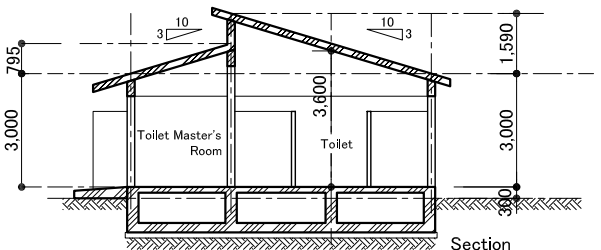
OFFICE BUILDING



Plan

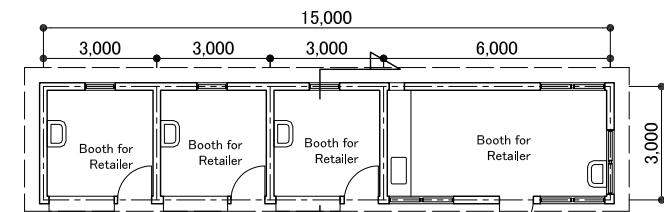


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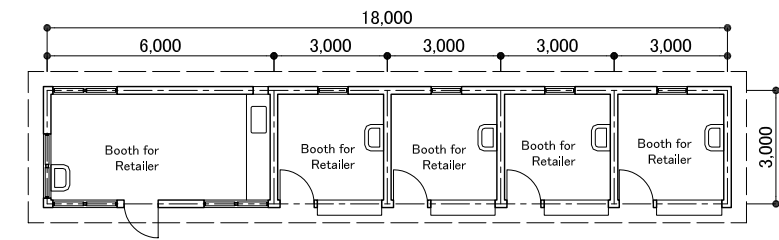


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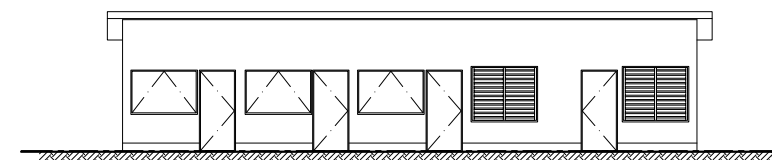
PUBLIC TOILET



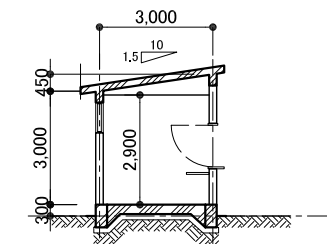
Booths for Retailers A



Booths for Retailers B

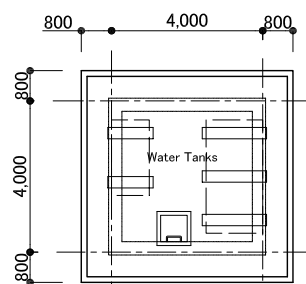


Elevation of Booths for Retailers A

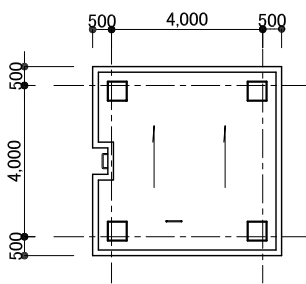


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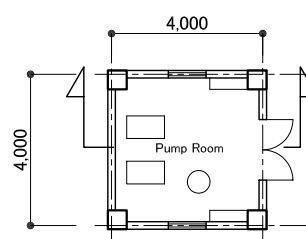
BOOTHS FOR RETAILERS



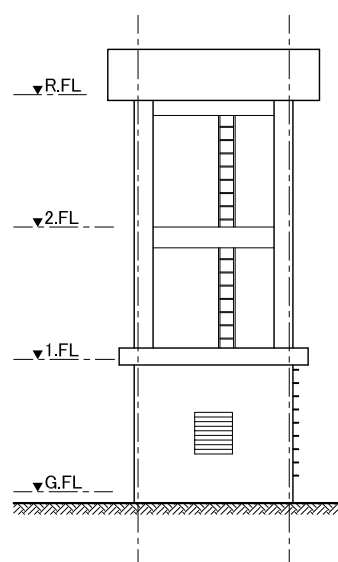
Plan R.F.L.



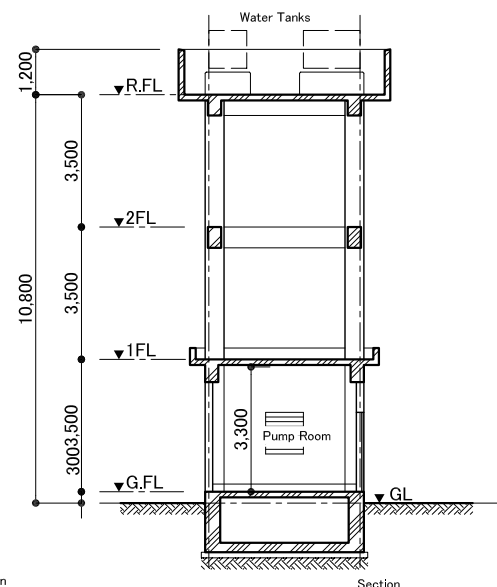
Plan 2.F.L.



Plan G.F.L.

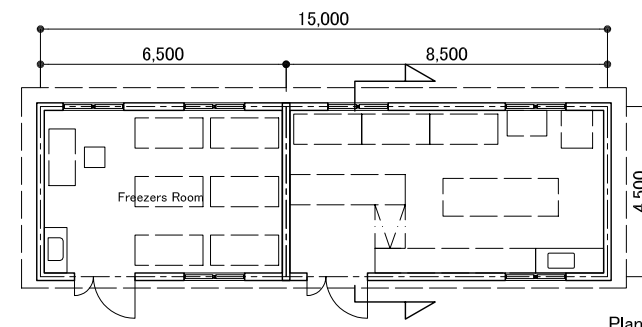


North Elevation

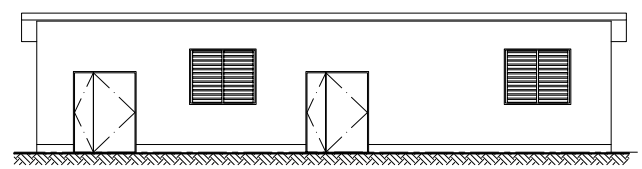


Section

ELEVATED WATER TANKS

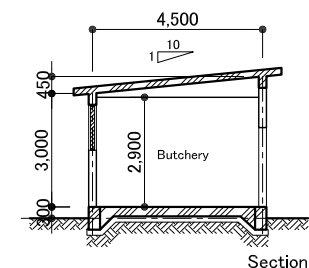


Plan

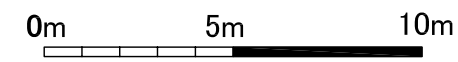


East Elevation

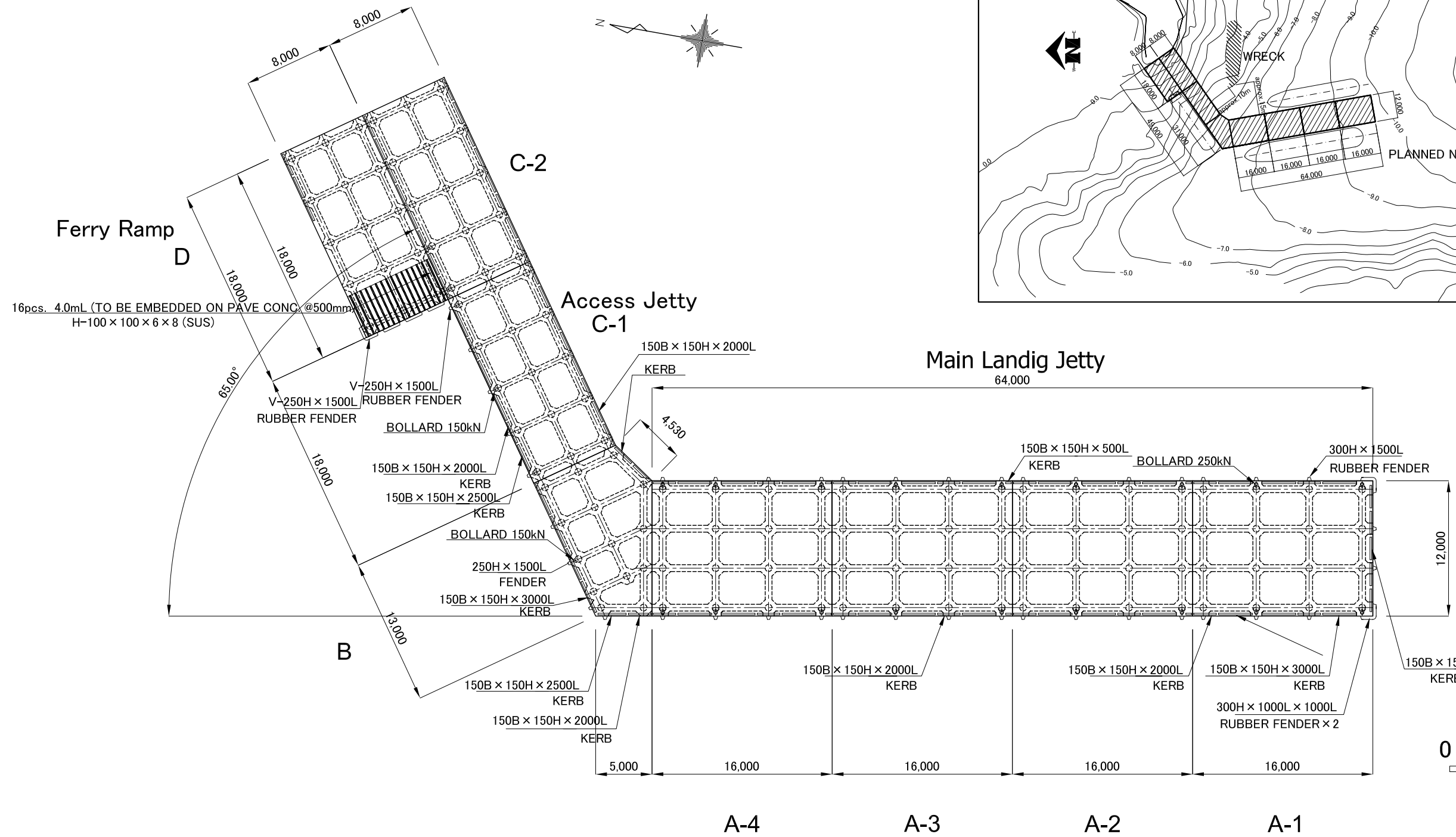
BUTCHERY & FREEZERS ROOM



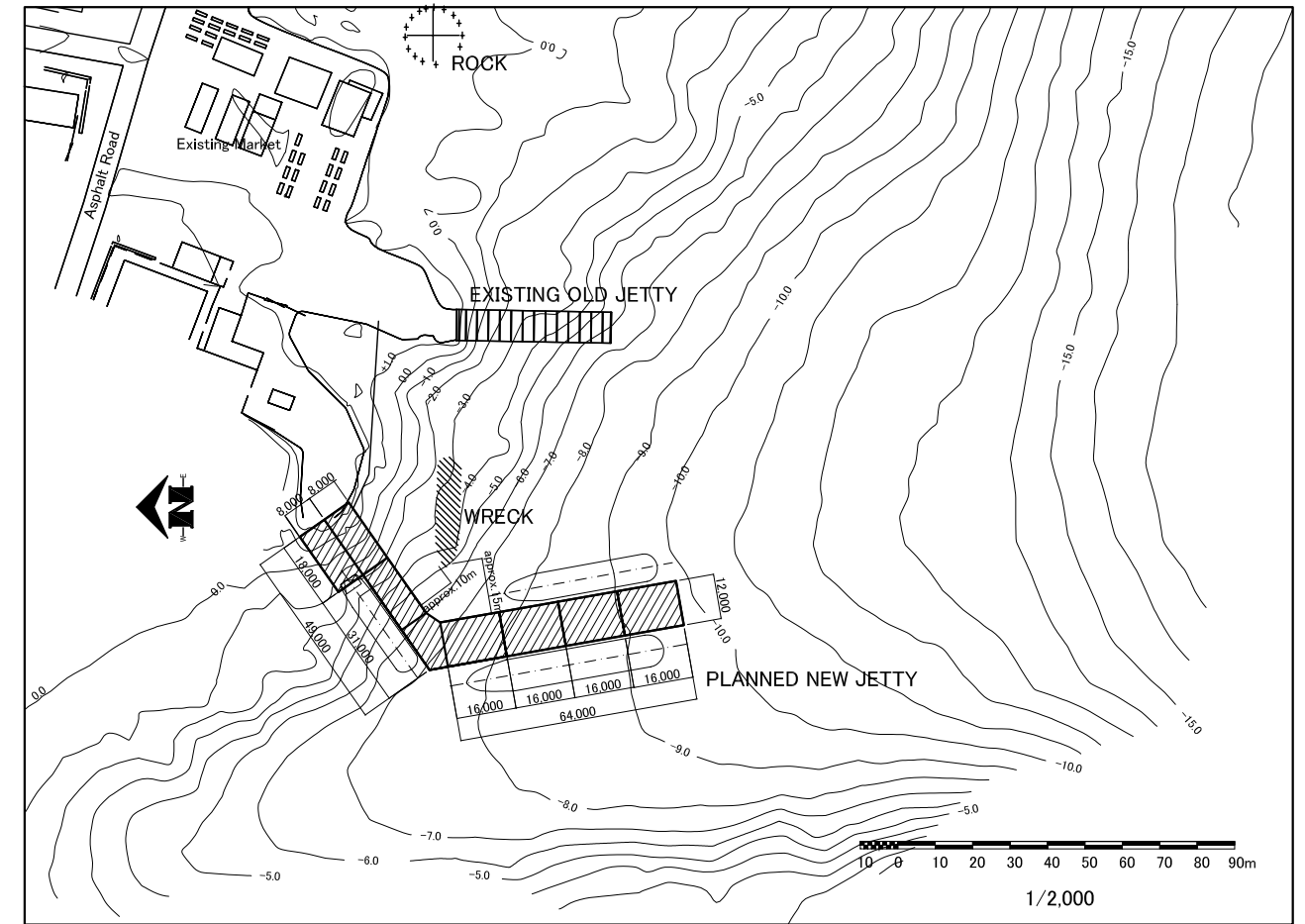
Section



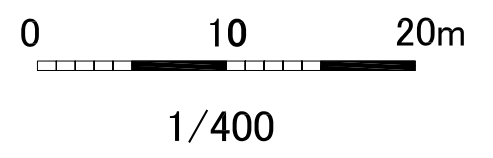
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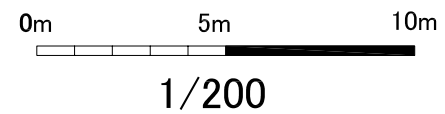
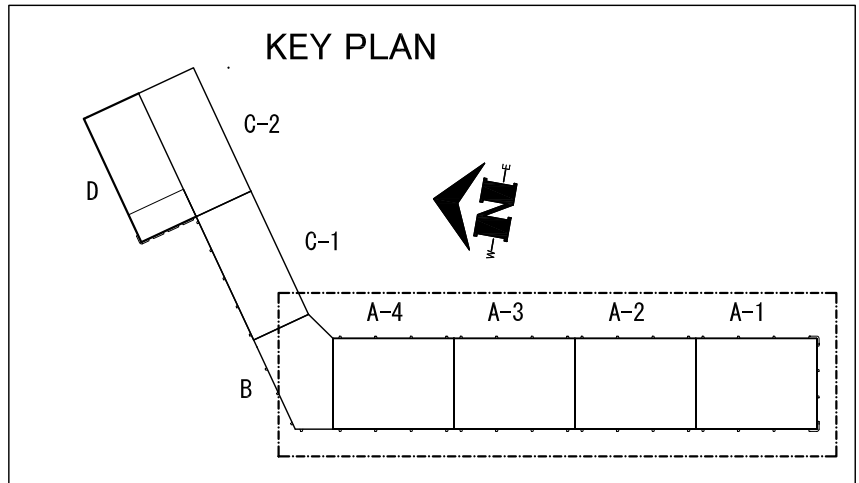
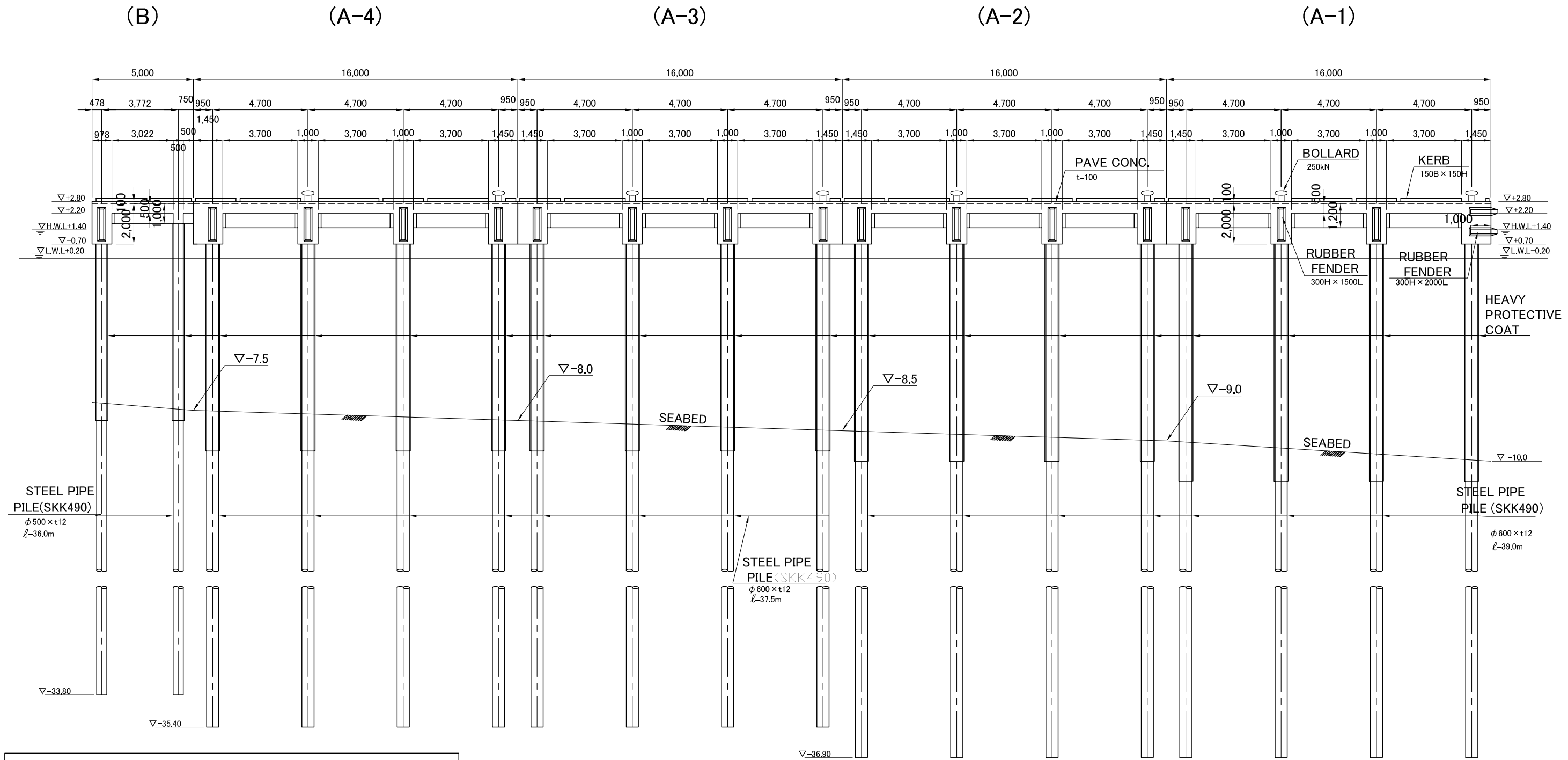


**E. PLOT PLAN**

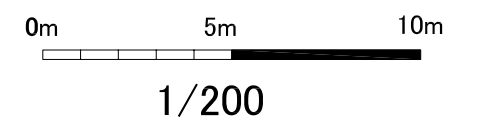
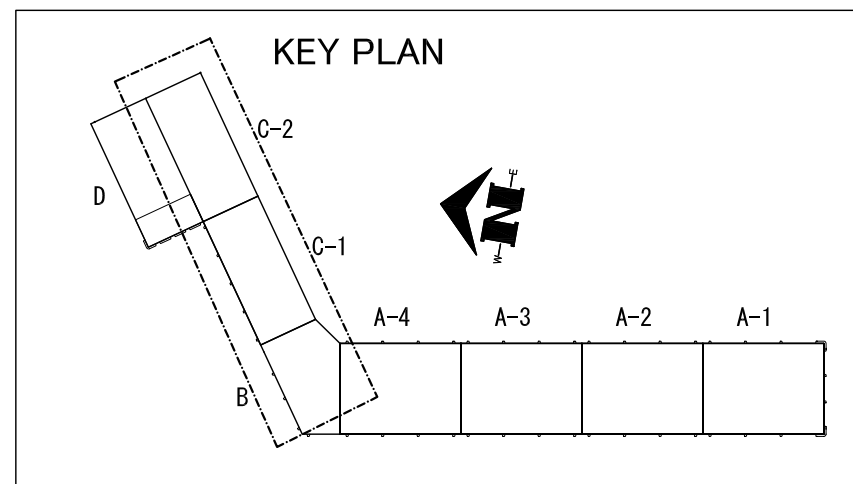
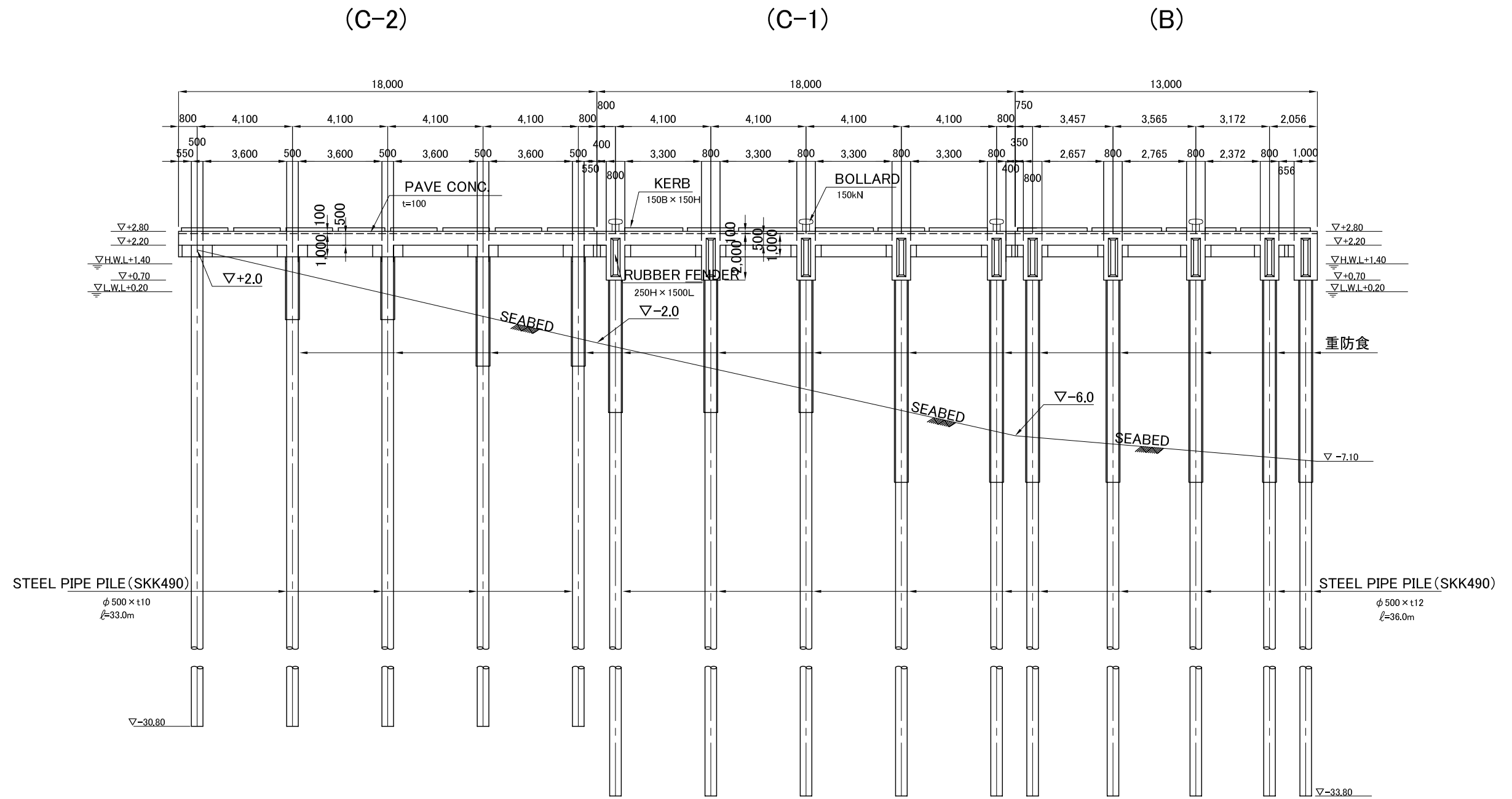


**F. BLOCK PLAN**





**G. JETTY LONG SECTION (1/2) MAIN LANDING JETTY**

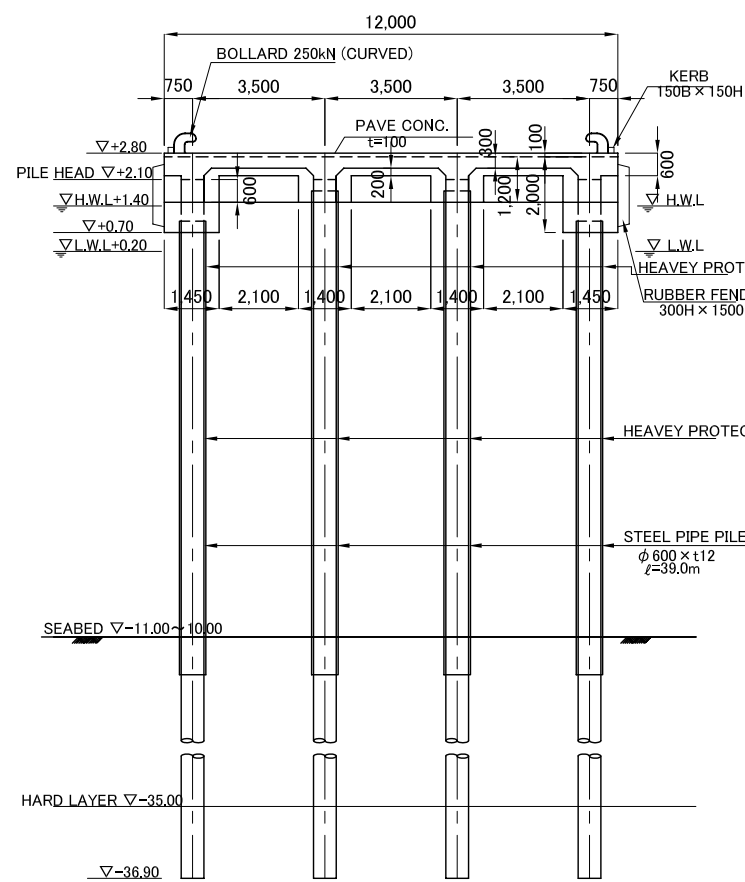


## H. JETTY LONG SECTION (2/2) ACCESS JETTY



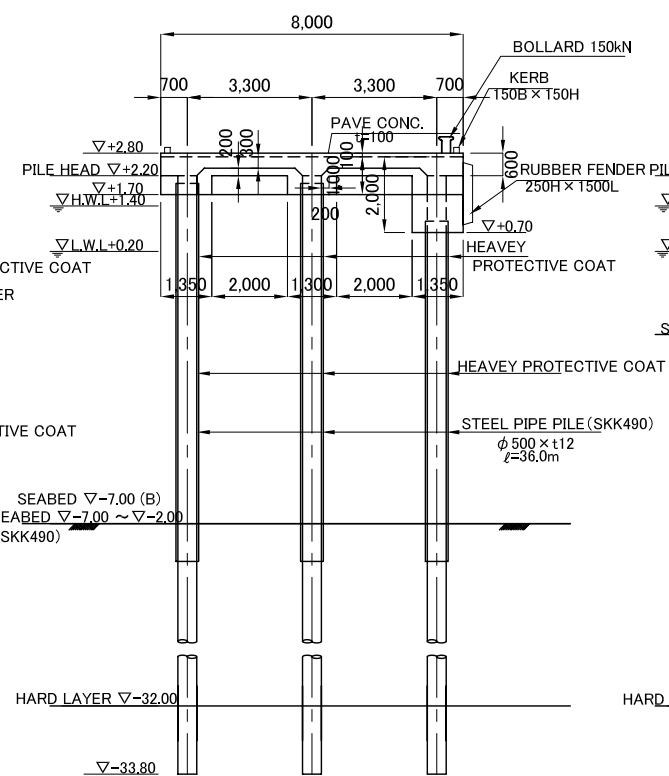
**MAIN LANDING JETTY**

Type A-1, A-2



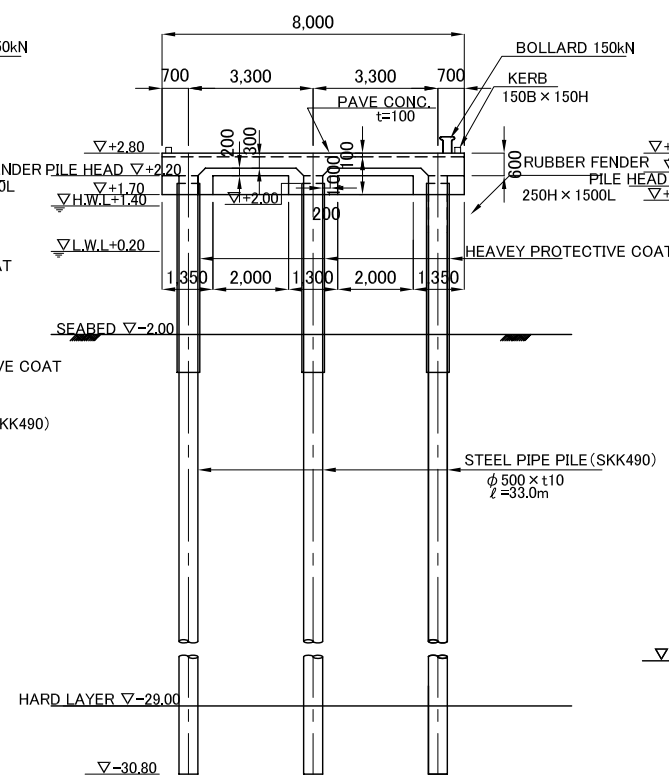
**ACCESS JETTY**

Type C-1 (Type B IS SIMILAR TO C-1)



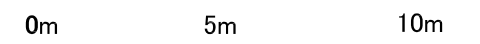
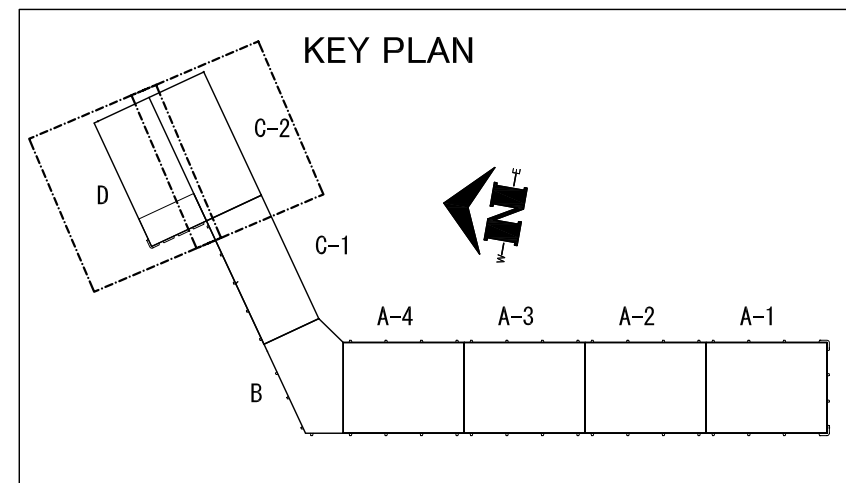
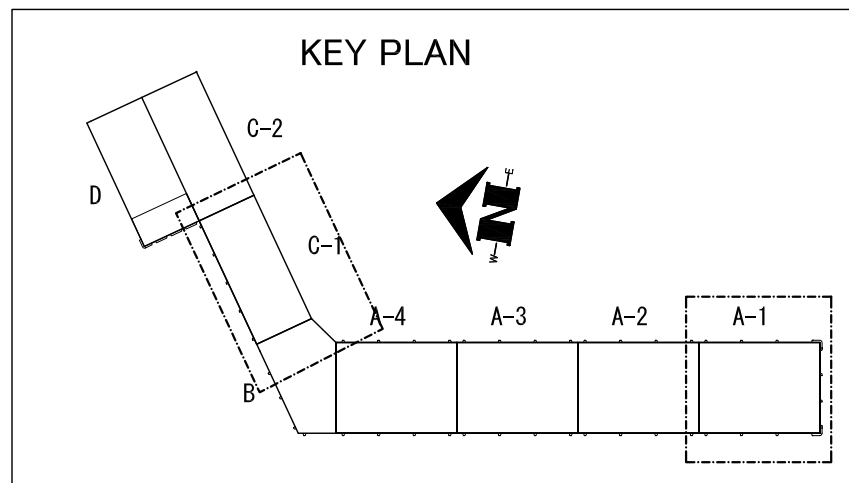
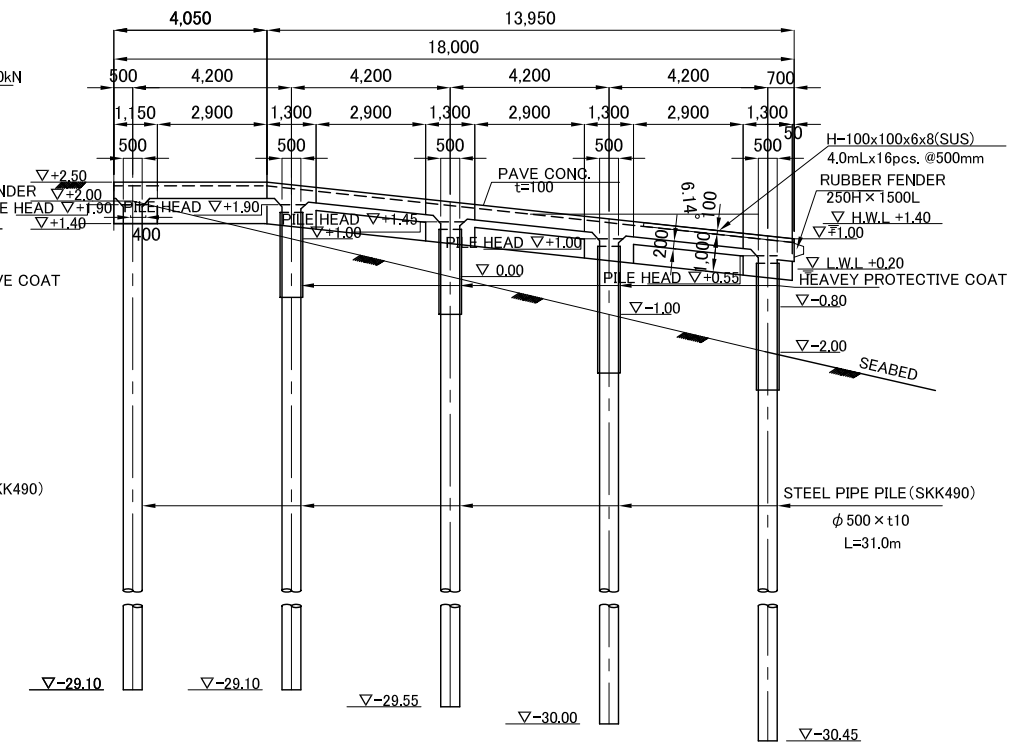
**ACCESS JETTY**

Type C-2



**FERRY RAMP**

Type D



1/200

**I. TYPICAL SECTIONS**

## 2-2-4 Implementation Plan

### 2-2-4-1 Implementation Policy

#### (1) Policy on construction methods and period

- ① If this plan is to be implemented under the grant aid of Japan, strict observance of a construction period will be a precondition. Therefore, an appropriate construction period plan will be prepared so that contractual conditions will be met within the term of the Exchange of Notes.
- ② The implementation plan will take the climate of the Solomon Islands and the environmental conditions in the area into consideration.
- ③ As the construction site is located on an isolated island, provision of materials, equipment and personnel will constitute a major part of the plan. In order to make the plan economic, structures and construction methods which will enable a short period of construction at the site will be selected.
- ④ This plan is to be implemented while maintaining activities at the existing jetty and market. In order not to disrupt these activities and to give maximum consideration to the safety of vessels, passengers and market users during implementation of the work, the implementation plan will attach particular importance to a short construction period and safety.
- ⑤ As the facilities in the plan are complex facilities requiring construction work (at the market site) and civil engineering work (at the jetty site), construction methods which enable sharing of equipment, materials and personnel between the two types of work will be selected.
- ⑥ Adequate exchange of opinions will be maintained between the responsible agency, the Ministry of Infrastructure and Development, in the capital, Honiara, and the implementing agency, the Malaita Provincial Government, and the consultant and contractors, as a means of facilitating understanding between the parties concerned and to realize trouble-free work implementation.

#### (2) Procurement policy

- ① General construction materials are commercially available in the Solomon Islands. However, since domestic industries have not developed in the Solomon Islands as it is an island nation, most of the construction materials commercially available in the country are imported from Australia, New Zealand and Papua New Guinea. Therefore, due attention will be paid to domestic stocks and the period required for procurement of individual materials in the implementation system.
- ② As only limited types of equipment and materials can be procured on Malaita Island, cement, sand and gravel will have to be transported by sea from Honiara and large quantities of construction materials, such as steel pipe piles, roofing materials and fenders, will have to be procured from Japan or third countries. As the once-a-month marine transport service is the only means of regular transport available from Japan to Honara, any unexpected circumstances may result in a longer interval between services. To avoid interruption of the work because of a shortage of

construction materials at the site caused by a delay in transport, materials and equipment will have to be brought to the site as early as possible.

- ③ Materials containing asbestos will not be used as construction materials in this plan.

(3) Policy on utilization of local contractors

As it is an island country, there are few contractors capable of implementing works over a certain scale in the Solomon Islands. Therefore, when implementing construction works over such a scale, companies from Japan and neighboring countries have been contracted to implement the works. Some of these foreign companies have branch offices in the Solomon Islands. With regard to laborers, though unskilled workers can be employed locally, engineers will have to be dispatched from Japan for the implementation of the pile work and superstructure work, which is to be implemented as offshore construction so that the project can be implemented within the planned time schedule and with the specified quality and accuracy. General skilled workers will be employed locally or at Honiara.

(4) Policy on operation/maintenance and management

Even though this plan does not include provision of machines and equipment which require sophisticated techniques, a simple and effective power supply, water supply and drainage facilities are to be selected, rather those requiring complicated operation, maintenance and management, in order to construct a system which can be handled by the maintenance and management system being designed by the Malaita Provincial Government. Consideration will be given to maintenance and management of the equipment. Such consideration includes adoption of equipment with parts-compatibility and similar equipment in order to maintain compatibility of equipment.

(5) Consultant supervision policy

- ① For trouble-free work implementation and procurement and delivery of materials and equipment, the consultant will maintain close communication and hold due consultation with the relevant personnel on the Solomon Islands side from the stage of detailed design to the stage of procurement and implementation to achieve completion of construction of the facilities without delay in accordance with the implementation schedule.
- ② For the trouble-free progress of procurement and implementation, the consultant will maintain close communication with, hold due consultation with and provide appropriate advice and instructions to the relevant personnel on the Solomon Islands side and the contractors and suppliers of equipment.
- ③ Professional technical supervision of the pile work and equipment work will be important for the construction work. A resident engineer stationed at the site will play a central role in the consultant supervision system and Japanese engineers specializing in specific fields will be

dispatched in a timely fashion as the need arises.

#### 2-2-4-2 Implementation Conditions

##### (1) General conditions of the construction site

###### 1 ) Contractors/distributors of imported construction materials

As the number of contractors in the Solomon Islands is small, most large-scale construction works have been implemented by contractors from Japan, Australia and New Zealand. Although a few local companies may be employed as subcontractors in this construction work, they will be concentrated in the capital, Honiara. As the majority of the construction materials will be imported from neighboring countries, the majority of the suppliers of construction and other materials will also be located in Honiara. Therefore, there will be a need for the Japanese contractor in this plan to be involved in communication and coordination works in Honiara when he establishes himself at the site and during the implementation.

###### 2 ) Imported materials and equipment

Materials and equipment required in this plan are not produced on Malaita Island. Aggregate for concrete and construction blocks are manufactured in Honiara. Cement and reinforcement available in the country are imported from Papua New Guinea, Australia and New Zealand. Other construction materials, materials for the facilities, equipment and electric engineering materials are also imported from industrialized countries in the region and distributed in the Solomon Islands. The amount of these imported materials and equipment for distribution is not always sufficient. Therefore, implementation of this plan will require a detailed procurement plan and a system for close communication with the distributors of imported goods.

###### 3 ) Safety control

The construction work in this plan will take place in the existing urban area and near the existing market and jetty, which shall continue their activities during the construction work. As the existing facilities are frequented by cargo-passenger ships, general users, vehicles and vessels and vehicles carrying hazardous materials, safety measures will be considered. Safety control measures for the safety of third parties will include clear demarcation of the construction area by appropriately erecting temporary fences, establishment of a separate access route for construction vehicles and appropriate posting of security guards during the construction.

##### (2) Implementation Conditions

- ① As activities at the existing jetty and market cannot be interrupted during the implementation period, public access to these facilities will be guaranteed in the site plan for a depot for

construction materials and equipment and a transport route.

- ② In the planned area, precipitation and temperature are high throughout the year. The high temperature and precipitation will be taken into consideration when implementing the temporary work plan and safety measures during the work. In addition, sufficient attention shall be paid to curing of the concrete in the concrete work and plaster work to prevent cracks from occurring.
- ③ As the structures in the plan are located along the coastline and will be subjected to sea breezes and seawater spray all the time, sufficient measures will be taken against salt damage to the structures. There will be a particular need to establish a system which enables on-site inspection of the salt concentration in the aggregate and mixing water, types of cement, concrete mix and quality and thickness of the concrete cover of the concrete for the structures.

### 2-2-4-3 Scope of Works

Table 2-29 below shows the scope of work in the project.

Table 2-29 : Scope of work of Japan and The Solomon Islands

	Undertakings in construction, procedures and expenses	Japan	Solomon Islands
1.	Securing of construction site (including securing of site for a construction materials depot and an on-site office and handling of matters related to traditional land use rights)		○
2.	Landscaping, planting and provision of furniture and general goods in the facilities after completion of the work		○
3.	Installation of power and water supplies to the site		○
4.	Application for and acquisition of all the approvals and permits in the Solomon Islands related to the Project (including authorization of building, use of power supply and water supply infrastructure and construction license, etc.)		○
5.	Communication and coordination with vendors, customers and users of the jetty and market during the implementation of the Project		○
6.	Consultancy services including detailed design, assistance in the tender process and work supervision	○	
7.	Construction of the jetty facilities	○	
8.	Construction of the market facilities	○	
9.	Import and customs-clearance for the materials and equipment required for implementation of the Project		○
10.	Banking Agreement (B/A) with a Japanese bank and bank commissions for it		○
11.	Provision for the Japanese personnel to enter and stay in the Solomon Islands in relation with the implementation of the Project		○
12.	Appropriate and efficient operation and management of facilities and equipment provided under the Project		○
13.	Payment of or exemption from domestic taxes including value added tax imposed upon materials, equipment and services procured by the contractor of the Project in the Solomon Islands		○

#### 2-2-4-4 Consultant Supervision

##### (1) Policy on consultant supervision

- ① For trouble-free construction work, the consultant will always maintain close communication and hold due consultation with the relevant personnel on the Solomon Islands side from the stage of detailed design to the stage of procurement and implementation to achieve completion of the construction of the facilities without delay in accordance with the implementation schedule.
- ② For trouble-free progress of the implementation, the consultant will always maintain close communication with, hold due consultation with and provide appropriate advice and instructions to the relevant personnel on the Solomon Islands side and the contractor.
- ③ A supervisor specializing in civil engineering who will be resident locally at the site will play a central role in the consultant supervision system and Japanese engineers specializing in construction will be dispatched in a timely fashion for supervision.

##### (2) Detailed design work and selection of contractors

After conclusion of the exchange of notes on this plan between the governments of Japan and the Solomon Islands, a consultancy contract on detailed design and consultant supervision will be concluded between the implementing agency of this project, the Ministry of Infrastructure and Development (MID), and the Japanese consultant and the following works will be implemented.

###### 1 ) Detailed design work

On the basis of the results of the basic design survey, the consultant will conduct a detailed survey and detailed design of the facilities to be constructed and the equipment. The detailed design will include the following items:

- Design conditions and standards
- Design report
- Design documents
- Bill of quantities
- Implementation plan
- Bidding documents

###### 2 ) Selection of contractors

After preparation of the detailed design documents for the construction work and procurement of equipment have been completed, MID will select a Japanese contractor who will undertake the works through tender with the assistance of the consultant. The consultant will assist MID in the following processes:

- Bid opening
- Pre-qualifications
- Explanation of bidding documents
- Opening of bids
- Bidding evaluation
- Contract negotiation

(3) Consultant supervision

The consultant's responsibilities in procurement and implementation supervision are as follows:

1) Cooperation in conclusion of procurement and construction contracts

The consultant will prepare bidding documents consisting of a draft of the assessment method of pre-qualification in the bidding and construction contract, technical specifications and design documents and a bill of quantities for the project costs. The consultant will assist tendering and contract procedures and provide an evaluation of and advice on selection of the contractors and contract conditions.

2) Instructions to contractors

The consultant will examine the implementation plan and provide the necessary instructions on the construction methods and work schedule in a timely fashion.

3) Examination and approval of working and shop drawings

The consultant will examine and approve working drawings, shop drawings, samples of materials and finish.

4) Construction supervision work

The consultant will verify the construction methods and control quality of the work through supervision by a resident engineer and short-term engineers in specific fields.

5) Witness to inspections

The consultant will conduct interim on-site inspections in a timely fashion while the work is in progress. After completion of the work, the consultant will conduct the completion inspection.

6) Report on progress of the work

The consultant will prepare reports on the progress of construction of the facilities, problems encountered, measures taken against the problems and the outcome of the measures taken, and submit the reports to the relevant government organizations of the Solomon Islands in Auki and Honiara, the Embassy of Japan in the Solomon Islands and JICA.

7) Witness of handover

The consultant will witness submission of the handover documents at the time of work completion and handover.

8) Confirmation for payment approval

The consultant will provide cooperation in confirmation and approval of the amount of work done corresponding to the construction costs payable to the contractor in accordance with the contract, or completion of the work, and examination and processing of the payment documents.

2-2-4-5 Quality Control Plan

(1) Main points in quality control relating to natural conditions

Sufficient attention will be paid to salt damage prevention and anti-corrosive measures for seaside structures which will be subjected to sea breezes and seawater spray. There will be a particular need to establish a system which enables on-site inspection of the salt concentration in the aggregate and mixing water, types of cement, concrete mix and quality and thickness of the concrete cover of the concrete for the structural skeleton. Heavy duty coating will be applied to the part of the steel pipe piles exposed to seawater.

(2) Piling work

Spliced piles will be used as pile materials because of the restrictions imposed by marine transport. The spliced piles will be prepared by welding the materials at the site. All the joints welded at the site will undergo visual inspection. One out of 20 welded joints will undergo dye penetrant testing (PT and dye check).

(3) Concrete work

The quality of the concrete will be maintained and controlled by conducting the following verification and tests and by preparing concrete strength control tables (including X-R control charts) for the respective mix proportions.

Table 2-30: List of concrete quality controls

Cement	Verification of type, standard and performance
Admixture	Verification of test results
Mixing water	Content of detrimental materials
Aggregate	Verification of grading, specific gravity and water absorption For fine aggregate, verification of chloride content
Trial mixing	Verification of slump, strength, mix proportion and quality



## 2-2-4-6 Procurement Plan

### (1) Policy on procurement

When procuring materials and equipment, their costs and quality will be thoroughly investigated and the costs of local procurement, procurement from Japan and procurement from third countries of materials and equipment of equivalent quality and availability will be compared. Those with the lowest costs will then be procured. Particularly for the materials and equipment locally available, their quality and availability will be thoroughly investigated.

### (2) Procurement of major construction materials and equipment

Domestically produced and imported construction materials available in the Solomon Islands will be procured locally for this plan so long as they satisfy the qualitative and quantitative requirements and are inexpensive. Although domestic products are limited to aggregate/sand, concrete blocks and wood, their quality and availability will meet the demands of this plan. A control system will be required at the time of manufacturing the pile materials. Inspection (of actual size/welding/tack-welding and paint) during manufacturing, in particular, will be closely connected to the quality guarantee. The period required for pile manufacturing will be a critical factor in determining the period of construction. For these reasons, procurement of pile materials from Japan is considered appropriate.

Most of the facility materials are available locally as stocks of imported goods. However, in order to construct a reliable system, some of the electrical materials and equipment such as switchboards and distribution boards, which cannot be procured locally, will be procured from Japan, in consideration of both quality and costs.

The table below shows the procurement sources of major construction materials and equipment to be used in this plan.

Table 2-31 : Procurement sources of major construction materials and equipment

	Major construction materials	From Japan	Locally <sup>*1</sup>	From third country	Remarks
1	Cement		○		Inexpensively procurable locally
2	Aggregate for concrete		○		//
3	Concrete blocks		○		//
4	Form materials		○		//
5	Reinforcement		○		//
6	Pile materials	○			To be procured from Japan in consideration of quality guarantee and period required for procurement
7	Fenders	○			//

8	Metal deck plates for roofs	○			To be procured from Japan in consideration of quality
9	Wood and plywood		○		Inexpensively procurable locally
10	Fittings and fixtures		○		"
11	Electric wire and light fixtures		○		"
12	Facilities and materials for water supply, sewerage and hygiene systems		○		"
13	PVC pipes		○		"
14	Pumps and valves	○			To be procured from Japan in consideration of quality and because it is more economic to procure them from Japan than to purchase imported items locally.
15	Switchboards and distribution boards	○			Impossible to procure locally

\*1) Items produced locally and imported goods readily available for local procurement

### (3) Major construction machinery

The construction machinery required for this plan includes machinery for offshore construction (for the jetty construction) and machinery for construction on land (for the market construction).

The construction machinery required for the land facilities includes excavators for the foundation work, cranes for the reinforced concrete work and dump trucks for the transport of materials. As construction companies located in Honiara own and maintain/manage these types of construction machinery, they will be able to be used in the plan. However, as local procurement of pile drivers, crawler cranes, barges for offshore construction, welding equipment and a concrete batcher plant would take a long time, they will have to be procured from Japan.

### (4) Transport plan

The major items among the materials and equipment required for the plan which are to be procured from Japan are the pile materials and pile drivers. The ordinary transport service route runs from Japan to the Port of Honiara via various Southern Pacific regions and countries such as Guam, Kiribati and Fiji. Domestic marine transport connects the Port of Honiara and Auki (approximately 120 km). However, as the vessel used for the regular domestic service cannot handle cargos or machinery of large size or materials in large volume, they will have to be transported by chartered tug boats and barges or landing ships. As containers cannot be unloaded at the existing old, deteriorating Auki Jetty, barges for unloading containers will be required. It takes approximately one and half months to transport goods from Japan to the Port of Honiara.

2-2-4-7 Implementation Schedule

This Project will require a period of 3 months from the field study to the detailed design and tender documentation approval works, and 2.5 months of tender-related works including the tender announcement and the tender execution. The total work execution period will require 14 months (including 10.5 months in the Solomon Islands) from the award of contracts with contractors and the preparation of construction works to the completion of the construction work.

Table 2-32 shows the table of work execution schedules.

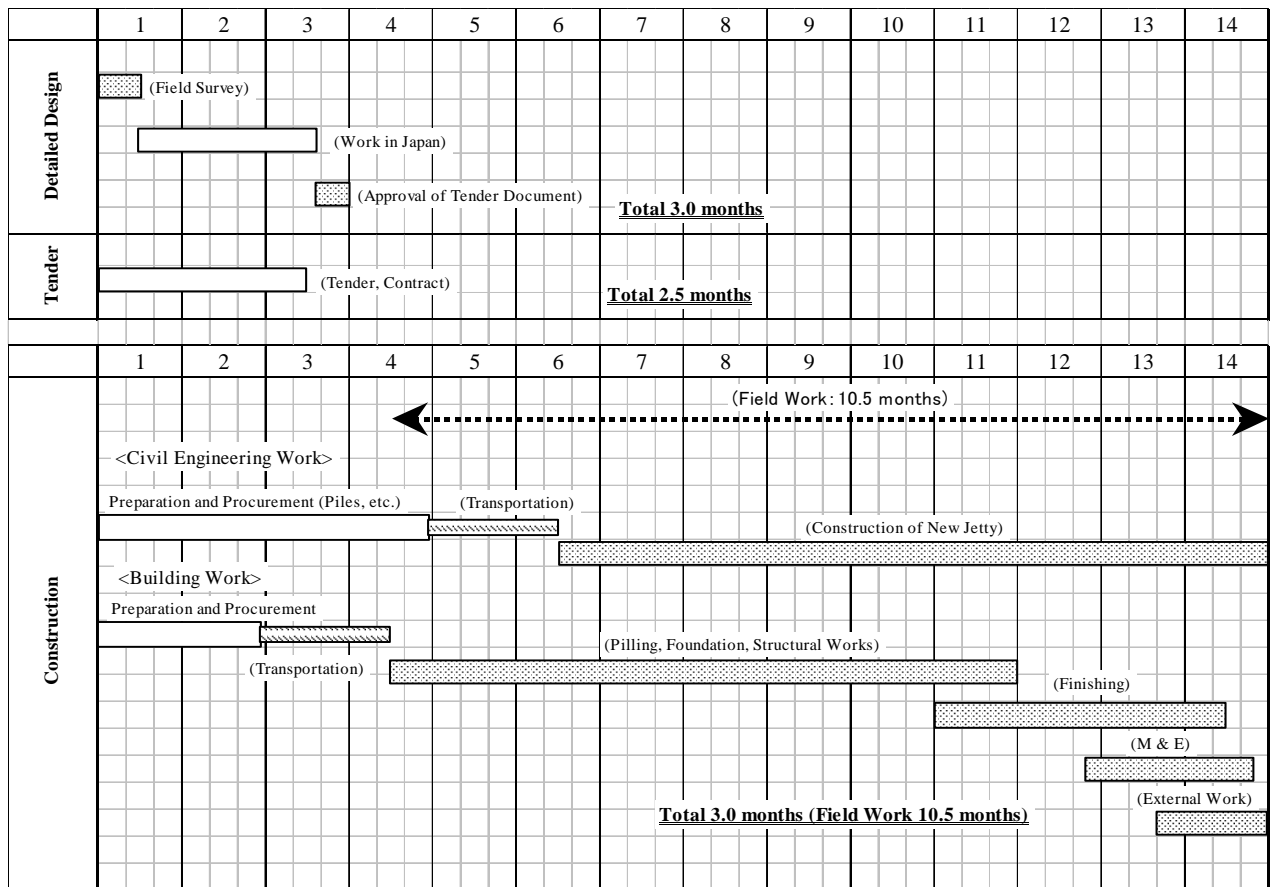


Table 2-32: Implementation Schedule

## 2-3 Obligations of Recipient Country

In implementing the project, it is vital that the Solomon side shall carry out the following undertakings within the agreed period of time.

(1) Securing of the premises

The leveled land for the planned facilities of the project has been secured by the Malaita Provincial Government.

(2) Securing of sites for temporary use for construction

The Government of Solomon Islands shall secure sites for temporary use during the construction. There is no problem if vacant lots located by the existing jetty and in front of the planned market site can be used as sites for temporary use for construction work.

(3) Introduction of electricity, telephone line and water supply

The 50mm-diameter water pipes laid in the planned market site shall be connected to the water mains, as it is not yet connected to the water mains. The power line shall branch from the power grid line alongside the north road of the planned market site and be routed to the planned market site. The telephone line shall come from the telephone line alongside the west road of the planned market site. Electricity, telephone line and water supply shall be introduced into the construction site in a timely manner at the cost of the Solomon side, but not later than the commencement of the mechanical and electric works for the Project. The costs to be incurred are estimated at approximately 110,000 SBD.

(4) Acquiring all construction and other necessary permits, as required for Project implementation

All applications for authorizations related to construction works for the facilities in this Project such as permission for use of electric power, water supply system, construction permit, etc. shall be carried out by the Solomon side and the necessary authorizations must be obtained prior to the commencement of the construction works.

(5) Exemption from any duties, taxes or levies imposed upon any equipment or materials to be imported to the Solomon Islands in conjunction with the Project and prompt customs clearance thereof.

(6) Exemption from the value added tax, and other domestic taxes

Any domestic tax such as value added tax on the payment of material, equipment and services to be procured by the contractor(s) under the Project shall be exempted or borne by the Solomon side.

- (7) Issuance of authorizations to pay, based on Banking Arrangement (B/A) with a Japanese bank with respect to payments provided for in the contract(s) for the Project, and to bear commissions to the Japanese bank.
- (8) Exemption of taxes or surcharges to be imposed on Japanese nationals regarding the supply of services in relation to this project in the Solomon Islands
- (9) All other items required for the implementation of the Project not specifically included in the undertakings by the Government of Japan.

#### 2-4 Project Operation Plan

At the initial stage, MID shall take care of the operation and maintenance of the new market and jetty. At the same time, the Malaita Provincial Government will establish the new organization, as the registration is currently ongoing. As soon as the new organization is established, it will implement operation and management works under the supervision of MID, and once the new organization is capable of implementing more effective management, MID will hand over the responsibility to the Malaita Provincial Government. The market and jetty operation and management organization will collect the market and jetty fees and undertake the daily management including cleaning and rubbish treatment, security and traffic control, check on conformance to the rules, and the maintenance management of market facilities, external works, furniture and equipment.

The Management Service Provider (MSP) shall fairly select appropriate operators for the chest freezer room and other stores (such as butchery, retailers and canteens) and enter into fixed-term lease agreements with the selected operators. The operators of these facilities shall, based on the lease agreement, supply services to market users at a charge and assume responsibility for appropriate maintenance of the equipment of these facilities. The MSP shall also assign sales counter space to retailers, collect usage fees, clean the premises of the market and collect rubbish in the temporary shed. The collected rubbish shall be transported for disposal every day by a garbage disposal company contracted with the MSP to a designated garbage disposal site outside the market. The MSP shall collect parking fees from vehicles that come to the market and manage the parking lot. The MSP shall be responsible for everyday management such as security in the market and checking of compliance with regulations and conduct maintenance of the market facilities other than those leased, such as buildings, outdoor facilities and equipment as well as the outdoor lighting and security facilities of the jetty.

The MSP, commissioned by the Malaita Provincial Government, shall issue port entry permits to vessels that intend to use Auki Jetty and collect port entry permit fees from them. It shall also collect jetty usage fees from vessels moored at Auki Jetty. The MSP shall manage the access of vehicles and people to Auki Jetty and, if required, limit entry to ensure the safety of the traffic on the

jetty and loading, unloading and transportation of cargo.

The work items related to the operation and management of the market are as follows:

1. Conclusion of lease agreements for stores (chest freezers room, butchery, retailers' booths, etc.)
2. Collection of rents according to the lease agreement
3. Collection of electricity and water charges
4. Allocation of stores (vegetables, marine products, daily necessities, etc.) to retailers
5. Collection of store usage charges
6. Collection of parking fees
7. Collection of toilet usage fees
8. Conclusion of rubbish disposal commissioning contracts with rubbish disposal companies
9. Payment of rubbish disposal fees
10. Payment of electricity and water charges
11. Cleaning and rubbish collection in and around the market facilities
12. Cleaning of toilets and management of sanitary facilities
13. Management of fresh-water and rainwater tanks, waterworks, pumps, etc.
14. Management of public lighting and electric facilities
15. Repair and management of store and market facilities
16. Check of the amount of electricity and water used by each retailer's booth
17. Traffic control in the market
18. Sanitary control in the market
19. Establishment of market regulations, public relations, and check of observance to the regulations
20. Guard duties and maintenance of security in the market

The work items related to the operation and management of the jetty are as follows:

1. Reception of vessels intending to use the jetty by handling applications for port entry permits and passing on port entry permits that have been issued
2. Collection of port entry permit fees
3. Collection of jetty usage fees
4. Management of public lighting
5. Traffic control, admission restriction, etc. on the jetty
6. Cleaning on the jetty
7. Daily inspection of the jetty and additional facilities

Figure 2-29 illustrates the Auki market and jetty operation and management plans.

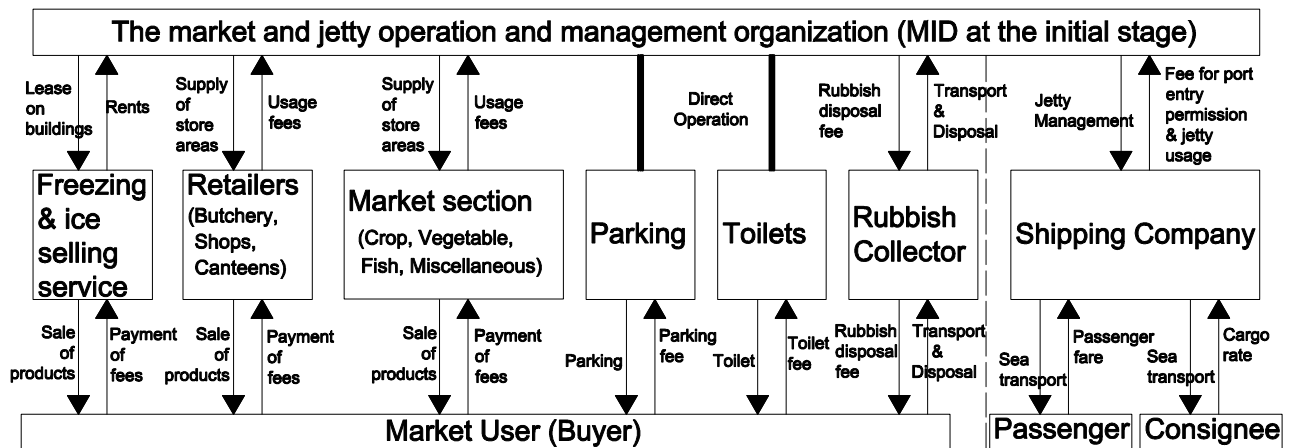


Figure 2-29: Auki market and jetty operation and management plan

The operation and management of Auki Market and Jetty shall need the following numbers of persons:

Market/jetty master	1
Jetty supervisor	1
Fee collector	3
Market cleaner	3
Guards (both for market and jetty)	3
Toilet custodian (men's/women's)	2
<b>Total</b>	<b>13</b>

Figure 2-30 shows the chart of the organization for the operation and management of Auki Market and Jetty.

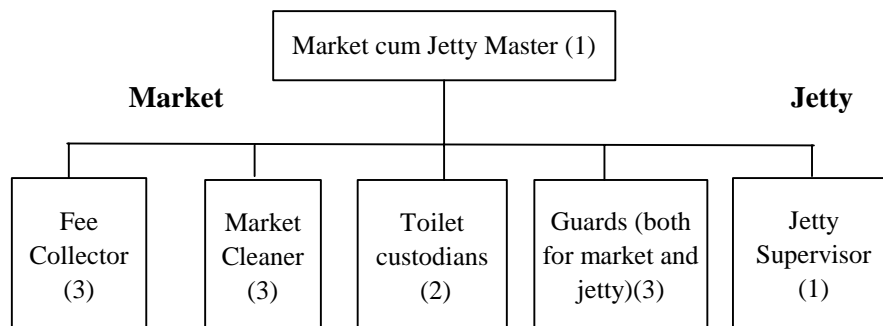


Figure 2-30: Organization Chart for the operation and management of Auki Market and Jetty

Until an appropriate MSP is selected and the selected MSP starts the operation and management of the market facilities and jetty or, if the selected MSP does not adequately conduct the operation and management of the market and the commissioning contract is canceled, until a commissioning contract is concluded with a new NGO, the Malaita Provincial Government shall assign full-time personnel as market and jetty master, and supervise him to ensure smooth operation and management of the market and jetty.

The market and jetty master shall:

- 1) Have basic knowledge on accounting and finance,
- 2) Manage cashier operations,
- 3) Create and manage account ledgers,
- 4) Have knowledge and experience in organization management,
- 5) Secure necessary persons for the operation and management of the market and jetty such as fee collectors and cleaners, and
- 6) Give appropriate instructions and commands to carry out daily routines regarding the maintenance and management.

## 2-5 Project Cost Estimation

The cost required to implement this project of which Solomon Islands shall be borne is calculated as SBD 109,902. The breakdown of the costs according to the demarcation of the works between the two countries as described before is estimated as follows, based on the calculation parameters given in (2) later. However, this cost estimate is provisional and would be further examined.

### (1) Cost to be borne by the Solomon Islands 109,900 SBD (approx. 1.75 million yen)

In implementing this Project under Japanese grant aid cooperation, the expenses that the Solomon Islands will share are as follows:

Power lead-in work cost	101,990 SBD (approx. 1.62 million yen)
<u>Water supply piping work cost</u>	<u>7,910 SBD (approx. 0.13 million yen)</u>
Total	

### (2) Calculation parameters

- 1) Time of calculation      March 2007
- 2) Exchange rate            1.00 US\$      = 119.58yen  
   1.00 SBD      = 15.93yen
- 3) Implementation period   Implementation period for detailed design, construction and procurement are as proposed in the implementation schedule above.
- 4) Others                      This project shall be carried out under Japan's grant-aid assistance scheme.

\* SBD... Solomon Islands Dollar



## 2-5-2 Operation and maintenance cost

The Auki Market and Jetty will be operated on a self-supporting basis, in which the operation and maintenance costs of the market and jetty and the maintenance cost of the market facilities and equipment will be able to be covered by the operation income including, jetty fees, vehicle parking fees, selling space fees, store rents and toilet charges. The Auki Market and Jetty operation income and expenditure and the operating budget which will be calculated in accordance with the operation plan will be described below.

### 2-5-2-1 Income

Vessels intending to use the jetty are required to pay an annual entrance permit fee to the provincial government to obtain a permit. The annual entrance permit fee will be 2,500 and 1,500 SBD for regular service and chartered service vessels, respectively. At present, nine regular service and three chartered service vessels are known to be operating on the Auki route. A passenger service fee will be charged in accordance with the provincial ordinance which stipulates that a passenger service fee of 1 SBD per passenger shall be charged. The number of passengers a year using Auki Jetty is estimated at 88,589.

As the parking fee at Honiara Market is 3 SBD/vehicle, the parking fee at Auki will be set at 2 SBD/vehicle. It is assumed that, on average, twenty vehicles will use the parking lot daily.

The user fee for an ordinary sales table is set at 2 SBD/day, while a user fee of 1 SBD/day will be charged for the open vending space which is used by vegetable and fruits vendors, who come to the market in large numbers at weekends. These fees are reasonable, as the fee for a sales table at Honiara Market is 6 SBD/day and the existing Auki Market charges a user fee of 1SBD/day. On average, 224 vendors are expected to use the sales tables every day and 100 vendors are expected to use the open vending space for half a day every Friday and Saturday. The user fee for the space under the sales table for overnight storage of root crops and coconuts on weekdays is set at 1 SBD/night. Honiara Market charges 6 SBD/night for storage in a storage room. On average, 25 people per day are expected to use the storage space under the sales tables on weekdays.

The rental fees for the booths are set at 300 SBD/month and 500 SBC/month for the booths for retailers and for the butchery and chest freezer room, which are larger than the ordinary booths. The number of booths for retailers, butchery and chest freezer room are 13, one and one, respectively.

The charge for the toilets is set at 0.3 SBD/visit. On average, 500 people a day are expected to use the toilets.

From the fees mentioned above, annual income of 367,733 SBD is expected.

#### 2-5-2-2 Expenditure

The details of personnel expenses are as follows:

Market / Jetty Master (one person)	2,000 SBD/month
Jetty Supervisor (one person)	1,500 SBD/month
General workers (11 people)	1,000 SBD/month

The cost of garbage disposal is estimated at 3,000 SBD/month.

The average monthly electricity consumption, including operation of the pumps for the elevated water tanks and lighting in the market and at the jetty and excluding consumption in the booths, is estimated at 1,000kWh. The electricity charge is 2.3 SBD/kWh. Assuming that rainwater supplies half of the water consumption in the market, 26 tons per month of service water will be consumed at the market, excluding service water consumption in the booths. The service water charge is 1 SBD/ton.

The maintenance and management expenses, including expenses for replacing light bulbs and simple repair of the facilities, is estimated at 5000 SBD/year. 54,000 SBD will be appropriated as miscellaneous expenses. 36,000 SBD/year will be allocated for accumulated depreciation of the facilities.

Thus, the total annual expenditure is estimated at 332,912 SBD.

### 2-5-2-3 Annual Operating Budget of Auki Market/Jetty

An estimated annual profit of 34,821 SBD is expected to enable MSP, which is responsible for the operation of Auki Market and Jetty, to sustainably manage the facilities.

Table 2-33 shows the operating budget of Auki Market and Jetty.

Table 2-33 : Annual income & expenditure of Auki Market & Jetty

<b>INCOME</b>		
Item	Breakdown	Amount(SBD)
Entrance Permit Fee	9 Regular Boats x 2,500 SBD/Y	22,500
	3 Charter boats x 1,500 SBD/Y	4,500
Passenger Service Fee	88,589 x 1 SBD	88,589
Parking Charge	20 Cars x 2 SBD x 24 day x 12 Months	11,520
Market Section Rental Fee	Market Section 224 Sections x 2 SBD x 24 days x 12Months	129,024
	Storage Space 25 Sections x 1 SBD x 16 days x 12 Months	4,800
	Open space 100 Space x 1 SBD x 4 days x 12 Months	4,800
Retailer's Booth Rental Fee Butchery/Freezing & Ice Storage	2 Booths x 500 SBD/month x 12 Months	12,000
	Store 13 Stores x 300 SBD/month x 12 Months	46,800
Toilet Charge	500 Person x 0.3 SBD x 24 days x 12 Months	43,200
<b>Total Income</b>		<b>367,733</b>
<b>EXPENDITURE</b>		
Item	Breakdown	Amount(SBD)
Personnel Expenses	1 Master x 2,000 SBD/month x 12 Months	24,000
	1 Supervisor x 1,500 SBD/month x 12 Months	18,000
	11 Workers x 1,000 SBD/month x 12 Months	132,000
Garbage	3,000 SBD x 12 Months	36,000
Electricity, Water & Maintenance	Electricity 1,000 kWh x 2.3 SBD/kWh x 12 Months	27,600
	Water 26m <sup>3</sup> x 1 SBD x 12 Months	312
	Others	5,000
Incidental Expenses & others		54,000
Depreciation Reserve		36,000
<b>Total Expenditure</b>		<b>332,912</b>
<b>Annual Profit</b>		<b>34,821</b>

\*1 Consumption of City Water and Electricity by individual shop is not included.

## 2-6 Other Relevant Issues

The items which are considered to have direct influence on the smooth implementation of this Project are described below.

### (1) Removal of the stranded (sunken) ship

A stranded steel ship (approx. 30m long x approx. 6m wide) is left at a water depth of about -3 to 4m at a distance of 38m on the northwest of the existing jetty. The construction and operation of the planned facilities are designed not to be disturbed by the stranded (sunken) ship, but it is desirable that such obstacle does not exist in order to secure the safety of navigation of the ships using the jetty. The Government of Solomon Islands has promised to remove this stranded (sunken) ship and it has been confirmed that the procedures of the tender for removing the ship are being taken. It is desired that the removal will be completed as soon as possible.

### (2) Provision of temporary sites

The Government of Solomon Islands should provide the temporary sites necessary for the construction work including a temporary storage yard for construction materials such as piles and a field office site.

### (3) Betterment of road between the planned jetty and planned market

A public road between the planned jetty and the planned market is not included in the scope of work for this Project, but it is required that such public road will be improved by the Government of Solomon Islands to secure smooth traffic and distribution between the jetty and the market.

### (4) Cautions and information regarding safety of users of the existing facilities during construction

The existing jetty and market will be operated during the construction work of the planned facilities in this Project and continuously used for the embarkation and disembarkation of passengers and the loading and unloading of cargo, the arrivals and departures of ships, the selling and buying activities in the market. Notices of no admittance to the work sites, traffic regulations necessary for entries and departures of work boats and vehicles as well as for execution of the works, and other safety-related warnings and information should be given to the users of the facilities and the ship operators in a thorough manner.

### (5) Land Exploitation

The Government of Solomon Islands is fully responsible to secure the land and would take necessary measures to solve any land issues occurred about the Project.



## CHAPTER 3 PROJECT EVALUATION AND RECOMMENDATIONS

## CHAPTER 3 PROJECT EVALUATION AND RECOMMENDATIONS

### 3-1 Project Effect

#### 3-1-1 Direct Effects

##### (1) Market facilities

###### 1 ) Relief of market congestion – Increase of total selling floor space per vendor

The floor space of the existing Auki market was so narrow that the comings and goings of people and the sales activity within the market became difficult because the vendors and shoppers drastically increased on Fridays and Saturdays on weekends, resulting in higher congestion. The total selling floor space per vendor on Fridays and Saturdays is 1.8m<sup>2</sup>/vendor at present, but after completion of the planned market facilities the total selling floor space per vendor is increased by about 30%, 0.5m<sup>2</sup>/vendor to 2.3m<sup>2</sup>/vendor, the congestion in the market will be fully relieved, in particular, the selling floor spaces for vendors of crops, root and vegetables who increase on weekends from rural communities will be secured.

Table 3-1 : Total selling floor space per weekend vendor in Auki market  
– Present Status and Future Plan –

	Vegetables/ fruits selling space	Betel nuts selling space	Processed foods selling space	Daily necessities selling space	Marine products selling space	Total
Current average number of stores	195	32	36	34	16	313
Current average number of vendors	390	64	72	68	32	626
Current total selling floor space(m <sup>2</sup> )	720	95	105	115	120	1,155
Current total selling space per vendor (m <sup>2</sup> )	1.8	1.5	1.5	1.7	3.8	1.8
Planned total selling floor space (m <sup>2</sup> )	880	144	162	154	159	1,499
Planned total selling space per vendor (m <sup>2</sup> )	2.3	2.3	2.3	2.3	5.0	2.4
Ratio of planned to current total selling floor space	1.3	1.5	1.5	1.4	1.3	1.3

###### 2 ) Increase of number of vendors on rainy days

The number of vendors in the existing Auki market is 18% lower on rainy days than on fine days. This is mainly because the selling space is in the open air and unpaved, and in rainy weather, vendors have to carry out their selling activities with umbrellas and on muddy ground, discouraging their sales motivation. According to the results of the hearing, more than about 50% of vendors do not carry out sales activities in rainy weather. The yearly number of rainy days in Auki is 240 days, of which it is presumed that 120 days are rainy in the daytime.

Therefore, the vendors will come to the market even in rainy days if the roofed selling floor space

is provided. The daily average number of vendors per rainy day will increase by 21 and it is expected that the yearly total number of vendors will increase to 2,520.

Table 3-2: Increase of vendors by construction of roofed selling floor space

Daily average number of vendors	237
Current yearly total number of vendors	86,505
Yearly number of rainy daytime days	120 days
Rate of improvement due to the roofed market	18%×50%
Increase of daily number of vendors on rainy days	$237 \times 18\% \times 50\% = 21$
Increase of yearly total number of vendors	$21 \times 120 \text{ days} = 2,520$
Yearly total number of vendors after project implementation	89,025

### 3 ) Improvement in hygienic conditions and freshness of products in the market

The selling space of the existing Auki market is not paved and most of it lies in the open air. Most products are exposed to direct sunlight in fine weather and to rain in rainy weather, and vendors have to carry out sales activities on muddy ground. In the marine product selling space, contaminated seawater is splashed over the fish for cooling and protection against drying, and the fish for sale are contaminated with *Escherichia coli* (E. coli). In these poor hygienic conditions, the products rapidly deteriorate and lose freshness. If the planned market facilities are provided, the selling space will be protected against rain, sunlight and mud and the fish can be cleaned with clean water, thereby allowing the hygienic conditions in the market to be improved and the products to be kept fresh.

#### (2) Jetty facilities

##### 1 ) Shortening of the time of passengers' disembarkation and the time of cargo unloading from inter-island ships

The Auki jetty is most congested when 3 passenger ships arrive at the jetty one after another at midnight on Fridays and it takes much time for passengers' disembarkation and unloading their baggage and cargo. All the cargos are handled by manpower and it takes about 4 to 5 hours to unload the cargos from one ship and about 3 to 4 hours to load cargoes.

The conditions of passengers' disembarkation, cargo unloading and loading from or on main ships using the Auki jetty are shown in Table 3-3.



Table 3-3: Conditions of passengers' disembarkation, cargo unloading and loading from or on main ships

Name of Ship	Temotu	Bikoi	Tomoko	Average
L×B (m)	20.15×6.4	32.1×7	32.1×7	
Average number of passengers	168	114	289	190
< Arrival time >				
Cargo unloading time	Approx. 3 hours	Approx. 4 hours	Approx. 5 hours	4 hours
Time of passengers' disembarkation	Approx. 2 hours	Approx. 2 hours	Approx. 4 hours	2 hours and 40 minutes
< Departure time >				
Cargo loading time	Approx. 3 hours	Approx. 3 hours	Approx. 4 hours	3 hours and 20 minutes
Time of passenger's embarkation	Approx. 2 hours	Approx. 2 hours	Approx. 4 hours	2 hours and 40 minutes

If the congested conditions are improved by rehabilitation of the Auki jetty, it is estimated that the time required for passengers' disembarkation will be shortened by 37 minutes, and the cargo unloading time by approximately 19 minutes as shown in Table 3-4 below.

Table 3-4: Conditions of passengers' disembarkation and cargo unloading from main ships

Name of Ship		Temotu	Bikoi	Tomoko	Average
a.	Currently required time of disembarkation (min.)	120	120	240	160
b.	Currently required time of cargo unloading (min.)	180	240	300	240
c.	Time for preparation for disembarkation (min.)	10	10	10	10
d.	Total required time of disembarkation for all passengers (min.)	46	34	121	67
e.	Total required time for all passengers' leaving the jetty (min.)	7	5	11	8
f.	Shortest time required for disembarkation (min.) [c + d + e]	63	49	142	85
g.	Lost time due to congestion (min.) [a - f]	57	71	98	75
h.	Relief of congestion by jetty rehabilitation (%)	50	50	50	50
i.	Shortened time of disembarkation (min.)	28	35	49	37
j.	Required time of disembarkation after project implementation (min.)	92	85	191	122
k.	Shortened time of cargo unloading (min.)	14	18	25	19
l.	Required time of cargo unloading after project implementation (min.) [b - k]	166	223	276	222
m.	Currently required time of disembarkation (min.)	42	53	74	56

The ships which have finished the disembarkation of passengers and the unloading of cargo will turn the lighting and the auxiliary machines OFF until the next morning when passengers embark

and cargos are loaded on them. The fuel cost saving effect by stopping the auxiliary machines is estimated to be 111.3 SBD per voyage.

9 regular ships and 10 non-regular ships navigate to Auki Port weekly. The regular ships make 50 voyages and the non-regular ships 12 voyages on average in a year. The fuel cost saving by relieved congestion at the Auki jetty is estimated to amount to 63,441 SBD.

### 3-1-2 Indirect Effects

#### (1) Market facilities

##### 1 ) Contribution to stabilization of the local economy in Malaita Province

By constructing the planned market facilities, the rural communities people in Malaita Province will be able to obtain the opportunity of earning cash incomes through sale of surplus products. By increasing the number of selling spaces in rainy weather, the yearly total sales in the entire Auki market will be increase, allowing an increase in cash incomes for rural communities people. This will contribute to stabilization of the local economy of Malaita Province.

##### 2 ) Elimination of difficulties due to parking vehicles for commercial activities in Auki shopping districts

The rural communities people who are vendors as well as shoppers visit the market by trucks and buses from every corner of the Islands. The existing market and its surrounding districts are congested with these vehicles, which disturb the traffic and particularly obstruct the commercial activities of stores outside the market. By operating the parking space in the planned market facilities, illegally parked vehicles will be reduced to eliminate the difficulties in the commercial activities in the Auki shopping districts.

#### (2) Jetty facilities

##### 1 ) Securing of marine transportation of 89,000 passengers and 14,000 tons of cargos per year

The rehabilitation of the Auki jetty will secure the marine transportation of 89,000 passengers and 14,000 tons of cargos per year which are transported between Malaita Island and Honiara and other Islands and which may be lost in the event that the existing jetty is broken down.

### 3-2 Recommendations

#### 3-2-1 Problems to Cope with by the Government of Solomon Islands : Recommendations

##### (1) Passing on experience and technology transfer from the operation and management of Honiara Market:

Honiara Central Market has been operated, maintained, and managed by the Honiara City Council

since it was constructed in 1994 as a Japanese grant aid cooperation. Although the operation, maintenance, and management has not necessarily been perfect, over a period of more than 10 years valuable experience has been accumulated in operation and maintenance. For the operation, maintenance, and management of the Auki Market, it is important to pass on the experience obtained in operating the Honiara Market for the operation and management system, operating rules, etc., of the Auki Market. Therefore it is necessary that there should be guidance in operation and management from personnel experienced in the Honiara Market, and staff of Auki Market should receive training at Honiara Market, to achieve technology transfer.

(2) Restoring of navigation aids in the Auki Harbour to ensure the safety of vessel using the jetty:

Most of the regular boats depart from Honiara before sundown, and arrive in Auki Harbour during the night. To enter Auki Harbour it is necessary to pass through a narrow channel of about 200m wide in the reef. However, during the ethnic tensions, the red and green lights indicating the entrance of the harbour, and the channel guide beacons that indicate the ship's course were destroyed. Therefore at present boats entering the harbor during the night without the navigation aids are exposed to danger at the harbor mouth. In the past there was an accident of a small ship contacting the reef on the north side of the harbour entrance. Therefore, to ensure the safety of ship using the jetty, it is necessary for the Solomon Islands Government to provide necessary navigation aids within Auki Harbour.

### 3-2-2 Technical Cooperation and Tie-up with Other Donors

The technical cooperation programs for the activities of the Fishermen's Union and the catch fish selling activities of fishermen's organizations had been implemented, including the JOCV dispatch to the Fishery Center as part of the existing market and the Malaita Development Agency (MDA), and the Cooperation for Coastal Fisheries Development Assistance (COFDAS) Project in North Malaita by the Overseas Fishery Cooperation Foundation (OFCF). However, the activities of these organizations have been inactive or discontinued due to reasons such as the "Ethnic Tension".

In order to ensure the Auki Market and Jetty Operating Agency continue the operation of the Project, it is essential to establish a new organization structure, to formulate the operation and accounting rules, the accounting system and other necessary procedures, and to make them take root among governmental staff and users. The essential point to organize persons who have only poor experience in the operation of an organization is to ensure that the right operating method or system will take root in the initial stage. It is desirable that the Auki Market and Jetty Operating Agency will receive experts and/or volunteers such as JOCVs from Japan in the initial operation stage so that the governmental staff and users will be guided and trained on the principles of organizational operations including establishment of accounting transparency.