

2. Specification

Specification

- Section 1. Genral
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- Section 4. Land Consolidation Works
- Section 5. Irrigation Canal Works
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- Section 7. Road Works
- Section 8. Relative Facilities

Specification

Section 1. General

1-1. Application

1) This specification is applicable to "Construction of Irrigated and Rainfed Rice Fields and its Related Facilities for the Koronivia Research Station in Fiji".

2) Quantity of main work

A) NAVUA PROJECT (Irrigated Rice Field)

(i) Land Consolidation Works 16.4 ha

(ii) Irrigation Facilities

Irrigation canal 1,050 m

(iii) Drainage Facilities

Drainage Canal 1,500 m

(iv) Road works

Farm road 1,810 m

(v) Relative Facilities

Storage House 15 m^{sq}

B) NAUSORI PROJECT (Rainfed Rice Field)

(i) Land Consolidation Works 14.3 ha

(ii) Drainage Facilities

Drainage Canal 1,880 m

(iii) Road Works

Farm road 1,670 m

(iv) Relative Facilities

Storage House 15 m^{sq}

3) Specifications entered in the drawing showing shall be treated in reference to this specification.

1-2. Engineer

"Engineer" means the engineer who was appointed to supervise the works by the JICA.

1-3. Site Representative

Site representative shall be well qualified in supervision or have enough experience of supervision. The Contractor shall submit career history of a site representative to the Engineer for his approval.

1-4. Work Schedule

The Contractor shall submit his work schedule before the commencement of the works at the job site. If the Contractor intends to change the work schedule, the approval from the Engineer shall be obtained prior to the modification of schedule.

Also the Contractor shall submit the machineries scheme including the numbers, and kind of machineries and using period of them.

1-5. Field Test and Inspection

The field tests in accordance with the specifications and the demands from the Engineer shall be the responsibility for the Contractor. The charges for such fields test shall be included in the total amount of the construction cost, and the Contractor is not entitled to claim any amount of the field test charges.

1-6. Temporary Office and Residence

In case the Contractor intends to build the temporary office, residence and so forth, the Contractor shall submit the plan to the Engineer for approval at least 10 (ten) days in advance of the commencement of such works.

The Contractor is required to always keep the buildings and facilities in good condition and to make proper drainage and sanitary system. Should the Contractor build them outside of the job site, the Contractor shall arrange with the owner of such land and at its own expense.

1-7. Record on Construction

The Contractor shall submit the record on whole progress of Construction every week to the Engineer.

1-8. Clearance of the Work Site

Upon completion of the works, the Contractor shall clear the site within period of construction.

Section 2. Earth Works

2-1. Scope

The work under this Section shall consist of all classes of grading, leveling, ditching, earthmoving, all other excavation, backfill, banking, surfacing and any other such construction work.

2-2. Clearing and Stripping

(1) Clearing

All areas to be cleared will be as designated on the Drawings and/or as directed by the Engineer. This work shall basically consist of clearing all vegetation, roots, brush, rubbish and other objectionable matter from the specified area to the satisfaction of the Engineer.

(2) Stripping

All the surfaces which are to be stripped will be as shown on the Drawings and/or as directed by the Engineer. This work shall basically consist of removing boulders, underground roots and other undesirable items to a depth as shown on the Drawings or as otherwise stipulated by the Engineer.

Materials obtained from stripping work shall be deposited in places approved by the Engineer. Stockpiled material shall be smoothed to a measurable outline and shall not be higher than that specified by the Engineer.

2-3. Excavation

(1) Excavation of all canals, ditches, pipelines and structure shall be in accordance with cross-section, line and grades shown in the drawings. Excavation operations shall be such that all suitable materials for embankment shall be separated from objectionable materials which are to be wasted.

(2) If the spontaneous landside of the slope occurs or is expected to occur, the Contractor shall inform the Engineer without any delay and shall ask him how to deal with landslide.

(3) The excavation of the slope shall be finished with tools to have the gradient indicated in the drawings or by the Engineer.

(4) If the slope and the foundation of the canals, ditches, or the foundation of pipe, structures are over excavated, the Contractor shall backfill with gravel or other material approved by the Engineer at the Contractor's expense and the backfilled materials shall be compacted sufficiently.

2-4. Backfill and Fill

Backfill and fill shall be placed to the lines and dimensions as shown on the Drawings.

The materials to be used for backfill and fill shall be all classes of disposed or excavated materials available in-situ. The quality of such materials shall be approved by the Engineer and shall be free from any organic matter or other objectionable material such as large clods or stones, boulders, etc.

The material shall be handled and placed in such manner as to achieve favorable compaction and density. The method of placing, moisture controlling and compacting backfill and fill shall be subject to approval by the Engineer.

2-5. Embankment

Embankments shall be placed and trimmed to the lines and dimensions as shown on the Drawings. The materials to be

used for embankment shall be all classes of disposed or excavated materials available in-situ. The quality of such materials shall be approved by the Engineer and shall be free from any organic matter or other objectionable material such as large clods or stones, boulders, etc. The material shall be placed in successive horizontal layers of loose material not more than 200mm in depth. Each layer shall be spread uniformly on a soil surface that has been moistened or aerated as necessary and scarified or otherwise broken up in such a manner that the fill will bond with the surface on which it is placed. The material shall be handled and placed in such manner as to achieve favorable compaction and density. The method of placing, moisture controlling, compacting and trimming of the embankment shall be subject to approval by the Engineer. The surface of the embankment shall be left 150mm above final grade to allow for settlement. After an adequate period approved by the Engineer, the Contractor shall return and fill in low spots, or scrape off high spots.

2-6. Disposal of Excavated Material

Excavated materials may be used for backfilling and/or embarking unless otherwise specified or directed by the Engineer. Excavated material in excess of requirements, shall be disposed of in the disposal area appointed by the Engineer. Waste material shall be piled by taking sufficient measures to avoid injury or damage to adjacent area and properties.

Section 3. Concrete Works

3-1. General

All concrete works shall be performed as established on the Drawing or directed by the Engineer. Unless specifically provided in this specification, the concrete shall be produced, transported, placed, cured, finished and tested in accordance with the ASTM and JIS provisions or equivalent standard approved by the Engineer.

3-2. Materials

(1) Cement

(i) Cement used in Concrete mixture shall be normal portland cement, properties of which shall be in accordance with ASTM-C150 and JIS-R5210 or equivalent standard approved by the Engineer.

(ii) Cement shall be reliable brand, good quality and absolutely dry.

(iii) The Contractor shall construct a water-proof cement storage shed at the job site, floor of which shall be higher than the ground surface at least 30 (thirty) cm.

(iv) The Contractor shall not keep cement at the job site more than 1 (one) month, and the storage period is counted from the date when the cement is transported from the manufacturing factory to the job site.

(v) During the course of construction, the Contractor shall not use cement for the works properties of which are changed, especially consolidated.

(2) Fine aggregate

(i) Fine aggregate shall be river sand that is clean and rigid without organic matter and other substance.

Fine aggregate shall have the properties as shown in following table.

Sieve No.	Percent Retained by Weight
4	0 - 5
16	25 - 40
100	93 - 97

The fineness modulus shall be in the range from 2.30 to 3.00

(ii) The Contractor shall keep fine aggregate at clean and good drainage place, which shall be protect against the mixture with harmful substance such as clay, soil and so on.

(3) Coarse aggregate

(i) The Contractor shall use crushed stone as coarse aggregate which is rigid and endurable substance without organic and harmful materials.

(ii) Coarse aggregate shall have the grading as shown in the following table.

Sieve Size	Percent Retained by Weight
1"	0
3/4"	0 - 10
3/8"	45 - 80

(iii) Coarse aggregate shall be stored in such manner as to avoid inclusion of foreign materials. All coarse aggregate shall be maintained in saturated moisture content and surface dry conditions.

(4) Water

(i) Water used in Concrete shall be clean free from oils, acid, alkali or other matters detrimental to the quality or durability of the concrete.

(ii) Water shall be stored in tanks and not to be exposed to the direct rays of the sun.

3-3. Mixing Design of Concrete

Concrete shall have the proportion as follows:

Class	Compressive Strength 28 days	Mixing portion Cement:Fine A: Coarse A	Slump
Reinforce concrete	$f'c=210$ kg/cm	1:2:3 (by volumn)	8 - 12 cm
Plain concrete	$f'c=160$ kg/cm	1:3:6 (by volumn)	8 - 12 cm
Lean concrete	-	1:4:6 (by volumn)	

Fine A : fine aggregate

Coarse A : coarse aggregate

Other proportions for mixed design may be indicated by the Engineer at the job site, if it is necessary.

3-4. Slump Test

The Contractor shall make slump test in each batch in accordance with JIS 1101. In case the Contractor intends to place concrete, the Contractor shall not pour the concrete without prior inspection for the value of slump test by the Engineer. After the completion of the concrete Works, the Contractor shall submit the data of slump test to the Engineer.

3-5. Mixing the Concrete

The Contractor shall use a power-driven concrete mixer and quantities of cement, aggregate and water in concrete mixture shall be measured correctly in each time. The driving time for mixing concrete shall be more than 2 (two) minutes and less than 5 (five) minutes in order to make concrete with constant consistency and good quality. Take out from the concrete mixer, concrete shall be placed in the form within 30 (thirty) minutes. The concrete mixer shall be checked and cleaned every day and the Contractor shall remove concrete debris attached the concrete mixer.

3-6 Concrete Form Work

(1) Concrete form shall be rigid and strong enough to support the weight of concrete without deformation, and the Contractor shall make concrete form tightly in order to prevent water seepage from unsolid concrete.

(2) The Contractor may use wood form, plywood form and steel form, in any case surface of form shall be smooth and have no damage.

(3) In case the Contractor set up concrete form, the iron embedded within concrete to hold the form shall be cut at concrete surface.

(4) Before placing concrete, concrete form shall be inspected by the Engineer for correctness of size, good preparation and so on.

(5) Before placing concrete, the Contractor shall paint oil on inner side of concrete form for good separation between concrete and concrete form after solidness of concrete.

3-7. Placing Concrete

(1) Before placing concrete, the Contractor shall check and clean the floor and the surface of concrete form.

(2) After a batch of concrete is placed, the surface height of concrete in concrete form shall have same height in a block, and the height of placed concrete layer shall be less than 40 (forty) cm in each placing.

(3) The Contractor shall place concrete continuously into a look of structure such as wall, slab and so on.

(4) In case the new concrete is placed on solid concrete, the Contractor shall take out laitance, loose aggregate, low quality concrete on the surface of solid concrete.

3-8. Compaction of Concrete

After placing concrete, the Contractor shall compact concrete by using immersion type vibrator. Should the Contractor intends to use another type of vibrator, the Contractor shall obtain the prior permission of the Engineer.

3-9. Curing

The Contractor shall cure concrete completely with water. If the Contractor intends to use curing chemical, the Contractor shall obtain the prior permission of the Engineer.

3-10. Reinforcing Bars

(i) Reinforcing bars which are used in reinforced concrete works shall be round bar or deformed bar in accordance with ASTM designation A-7-55 and A-141-55 or JIS G 3112, when the Contractor uses round bars, hook shall be provided as directed by the Engineer.

(ii) The equipment and tool which are to be used to cut, bend and manufacture shall be approved by the Engineer. Hot manufacturing of the reinforcing bar is not permitted.

(iii) Before the bar is erected, the surface of the bars and the surface of any metal supports shall be clean and free from all the dirt and deteriorates which in the opinion of the Engineer is objectionable.

(iv) The minimum coverage for all main reinforcing bars shall be 5 cm.

(v) Cutting and bending of reinforcing bars may be done in a shop or at the job site. All bending works shall be in accordance with the standard approved practice of the industry or by other approved machine methods. Radial for bend and hooks will be as per the detailed approved drawings.

(vi) Laps at joints of reinforcing bar shall have a length at least thirty times of the diameter of bar and shall be bound by steel wire.

Section 4. Land Consolidation Works

4-1 Scope

The work under this Section shall consist of clearing and stripping and grading works, all in accordance with the Drawing and these specifications or as directed by the Engineer.

4-2 Work Preparation

Prior to the work, the planned area shall be isolated from outside drainage to prevent the water coming in. During the work, surface water in the planned area shall be removed as much as practicable.

4-3 Clearing and stripping Work

(1) The Contractor shall conform the boundary of work area in attendance of the Engineer before the commencement of work and shall place boundary post, if necessary.

(2) Clearing and stripping work shall conform to the requirements specified under Section 2.

4-4 Earthmoving and Filling

(1) Primary earthmoving and filling shall be made within the planned area as a rule.

(2) Earthmoving and filling work shall conform to the requirements specified under Section 2.

(3) Slope surface shall be finished evenly with the grade given in the Drawings. Final grading shall be carried out using a bulldozer.

(4) In case of over-excavation, the Contractor shall dispose according to the instruction of the Engineer. Its cost shall be borne by the Contractor.

Section 5. Irrigation canal works

5-1 Scope

This Scope under this Section shall consist of excavation, embankment and relative structures for the irrigation canals, all in accordance with the Drawings and these Specifications or as directed by the Engineer.

5-2 Earth Work

Earth Work for irrigation canals shall be in accordance with Section 2.

5-3 Concrete Work

Where shown on the Drawings or as directed by the Engineer, the Contractor shall construct division and inlet works for the irrigation canals. Those structures shall be constructed in accordance with the applicable provision as Section 3 and the relevant Drawings.

Section 6. Drainage Canal works

6-1 Scope

The scope under this Section shall consist of excavation of canals and construction of the pipe culvert for drainage canal in accordance with the Drawings and Specifications or as directed by the Engineer.

6-2 Earth Work

Earth Work for drainage canals shall be in accordance with Section 2.

After banking operations are terminated the slope of banking shall be formed by means of slope tamping.

6-3 Pipe Culvert

Pipe culvert shall be made with locally manufactured concrete pipes. Concrete works shall comply with the descriptions of Section 3.

Section 7. Road Works

7-1 Scope

The scope under this Section shall cover the construction of farm road. The work shall include grubbing clearing embankment and excavation, all in accordance with the Drawings and these specification, or as directed by the Engineer.

7-2 Earthwork

The earthwork needed for construction of the roads shall be conducted according to the applicable provisions of Section 2.

7-3 Earth Materials

The road base shall be formed with those earth materials as surplus in excavation of ditch, when those materials are appropriate or equivalent in quality to those found in borrow pits.

7-4 Compaction

The base of the embankment shall be compacted with bulldozer and thickness of one compaction shall be about 15 cm in spread. During compaction, water shall be sprinkled for keeping optimum moisture content of the materials.

Section 8. Relative Facilities

8-1 Scope

The scope under this Section shall cover the construction of storage house in accordance with the Drawings and Specifications.

8-2 Earth work

The earthwork needed for construction of the foundation of those facilities above mentioned shall be conducted according to the applicable provisions of Section 2.

8-3 Concrete Work

The concrete work needed for construction of the foundation of those facilities above mentioned shall be conducted according to the applicable provisions of Section 3.

8-4 Brick Masonry

The work under this clause consists of all brick masonry work shown in the Drawings. Local products can be used and it shall be the first class. All bricks shall be laid after applying mortar.

8-5 Carpentry

The work under this paragraph consists of all carpentry work shown in the Drawings. Local timber can be used and it should be first class. The construction method shall conform to Fiji specifications.

APPENDIX

APPENDIX-1

Members of the Team

Team Leader	Mr.K.Kobayashi	Assistant Director Disaster Prevention Division Structure Improvement Bureau Ministry of Agriculture, Forestry and Fisheries
Member	Mr.H.Goto	Agricultural Development Cooperation Department,JICA
Member	Mr.T.Sakai	Taiyo Consultants Co.,Ltd.
Member	Mr.I.Iwai	Taiyo Consultants Co.,Ltd.

29 January, 1988

Mr R Yarrow
Permanent Secretary
Ministry of Primary Industries
SUVA

Dear Sir

The Japanese Detailed Design Survey Team (herein after referred to as "The Team") organised by Japan International Cooperation Agency (herein after referred to as "JICA"), visited Fiji from January 22 to January 30, (to March 3 for the consultant), for the main purpose of formulating detailed Plan on the Pilot Infrastructure Improvement Works for the Improvement of Rice Cultivation Technology Project (herein after referred to as "The Project").

During its stay in Fiji The Team did field survey, exchanged views and had a series of discussions with Fiji authorities as well as Japanese Expert Team. As a result of exchange of views and field survey; we have a great honour of submitting to you the summary Report attached hereto, showing the outline of the design of the works which will be consolidated by consultant members during their stay in Fiji.

Finally, I wish to take this opportunity to express our most sincere thanks for all the assistance, cooperation and hospitality and I hope that necessary arrangement will be taken for the smooth implementation of the works.

Yours sincerely

小林一成

[Kazunari Kobayashi]
Team Leader

Detailed Design Survey Team of Improvement of
Rice Cultivation Technology Project

c.c. Permanent Secretary, Ministry of Foreign Affairs

Aid Unit, Ministry of Finance

SUMMARY REPORT

I. Pilot Farm

The objective of the Team is to conduct a survey and detailed design on two Pilot Farms comprising of an irrigated paddy and a rainfed wetland paddy farms taking into consideration topography, weather and type of land ownership in this country, so that farmers in Fiji realize and learn from the results of rice research carried out in the country.

For selection of Pilot-Farms, a field survey has been carried out on the areas proposed by the government of Fiji along with JICA experts and Government officials concerned.

After discussions among the members, Navua area has been selected for the irrigated farm and Vusuya area for the rainfed wetland farm.

These are summarized as follows:

A. Irrigated area (Navua area)

1. The area is located within the Navua East Project, the first phase of which has been completed.

Irrigation infrastructure have been constructed on south and east sides of the area. On the north and west sides, the canals are now under construction. The total area of 22.4 ha consists of 2.0ha to 3.0ha plots. Presently, the fields are cultivated by draught animals. A small hill about 6-3m high is included in the 22.4ha.

2. The size of the proposed pilot farm will be about 15ha. The area will be levelled and banded with the view to adopt appropriate mechanization if necessary.

Since it is impossible to change the boundaries of each farm, the road, and the irrigation and drainage system will be designed along the boundaries. An existing main drainage running from North-West to South-East within the area may need to be realigned to adjust the shape of plots.

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Cont.....

B. Rainfed wetland area (Nausori area)

1. Vusuya area has been selected taking into account the priority of Fiji Government and the field survey. Land area consists of about 40 ha in total. There are two land owning Mataqalis with a total of 13 farmers. Farmers hold 3.7ha land on average.
2. Rainfed rice comprise about 82% of the rice land area in Fiji. Since rainfed rice is dependent on rainfall the productivity varies depending on distribution and amount of rainfall.

Therefore, it is proposed to develop facilities to supplement rain water during periods of drought in the main season.

C. Detailed Design

The detail engineering designs of the two pilot farms will be prepared (with Japanese government budget) by the remaining two team members after consultation with the Fiji side and the Japanese Expert Team.

II. Others

1. I respect the views of Matsuyama Recommendations (Annex) as the result of series of discussions and field survey.
2. I recognise that Fiji Government will take necessary measures to facilitate recommendations made in the Matsuyama mission as soon as possible.

For instance, if Fiji Government would like to increase the number of Japanese Long-Term Experts, it will be necessary that the current Records of Discussion and Tentative Schedule of Implementation be amended. So, the Government of Fiji should submit the request to expand the cooperation to the Embassy of Japan as soon as possible.

However, in case that the Government of Fiji wants to increase the number of Japanese Long-Term Experts, it is necessary to take the following measures as agreed.

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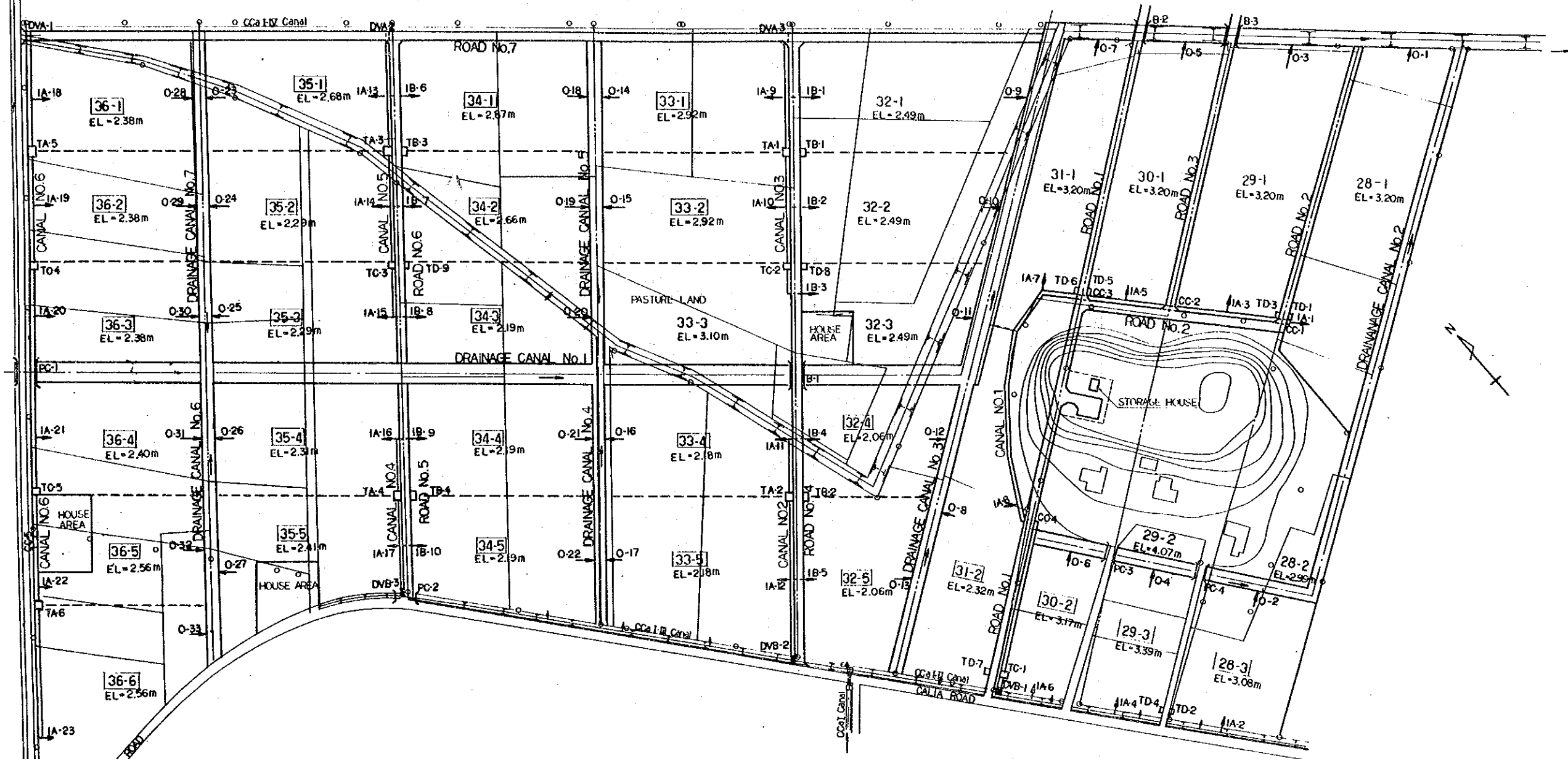
- a. Firm arrangement of full-time Counterparts
- b. Provision of a Project Manager who will supervise the total arrangement of counterparts and execute the project budget.
- c. Provision of the adequate local budget for the Project.

I would like to emphasize that Fiji authorities should take immediate measures to initiate execution of the future Programme.

DRAWINGS

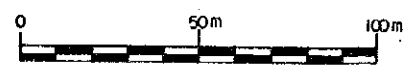
Drawing No. 1	General Plan
Drawing No. 2	Drainage Canal No. 1 Longitudinal and Cross Section (1/2)
Drawing No. 3	Drainage Canal No. 1 Longitudinal and Cross Section (2/2)
Drawing No. 4	Drainage Canal No. 2 - No. 7 Longitudinal Section
Drawing No. 5	Irrigation Canal No. 1 - No. 6 Longitudinal Section
Drawing No. 6	Typical Sections of Road, Irrigation Canal, Drainage Canal and Band
Drawing No. 7	Canal Crossing and Tractor Passage
Drawing No. 8	Detail of Inlet and Outlet for Canal Crossing and Tractor Passage
Drawing No. 9	Inlet Works, Outletworks and Pipe Culvert
Drawing No. 10	Division Works
Drawing No. 11	Box Culvert
Drawing No. 12	Storage House (1)
Drawing No. 13	Storage House (2)
Drawing No. 14	Storage House (3)
Drawing No. 15	Storage House (4)
Drawing No. 16	Storage House (5)
Drawing No. 17	General Plan
Drawing No. 18	Road No. 1 Longitudinal Section
Drawing No. 19	Road No. 1 and Road No. 2 Longitudinal Section
Drawing No. 20	Drainage Canal No. 1 Longitudinal and Cross Section
Drawing No. 21	Drainage Canal No. 2 Longitudinal and Cross Section
Drawing No. 22	Drainage Canal No. 3 Longitudinal and Cross Section
Drawing No. 23	Typical Sections of Road, Drainage Canal and Outlet Works
Drawing No. 24	Outlet Works and Pipe Culvert
Drawing No. 25	Box Culvert
Drawing No. 26	Stop Gate
Drawing No. 27	Storage House (1)
Drawing No. 28	Storage House (2)
Drawing No. 29	Storage House (3)
Drawing No. 30	Storage House (4)
Drawing No. 31	Storage House (5)

GENERAL PLAN

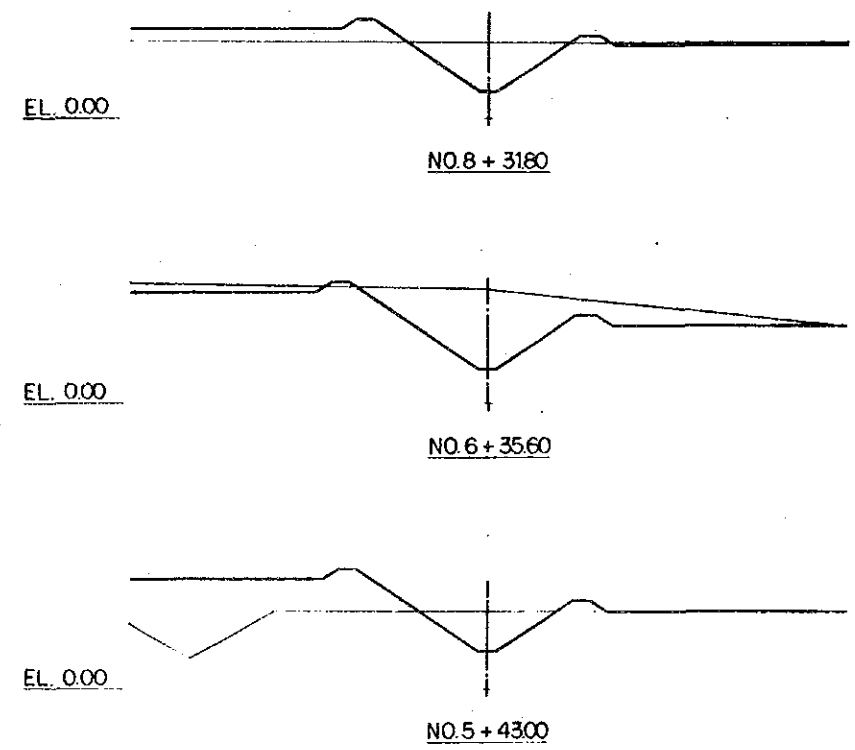
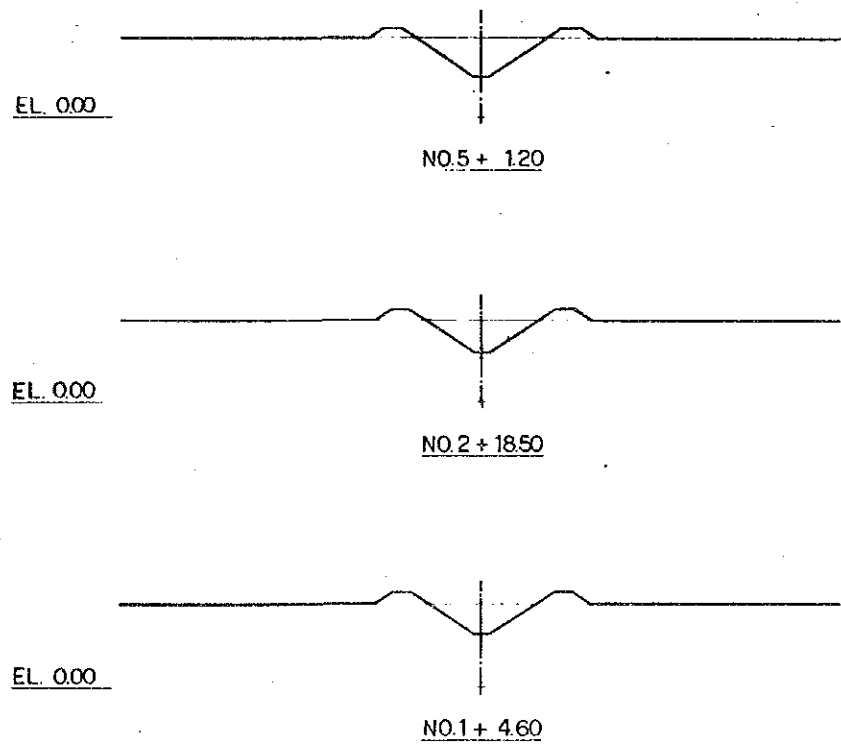
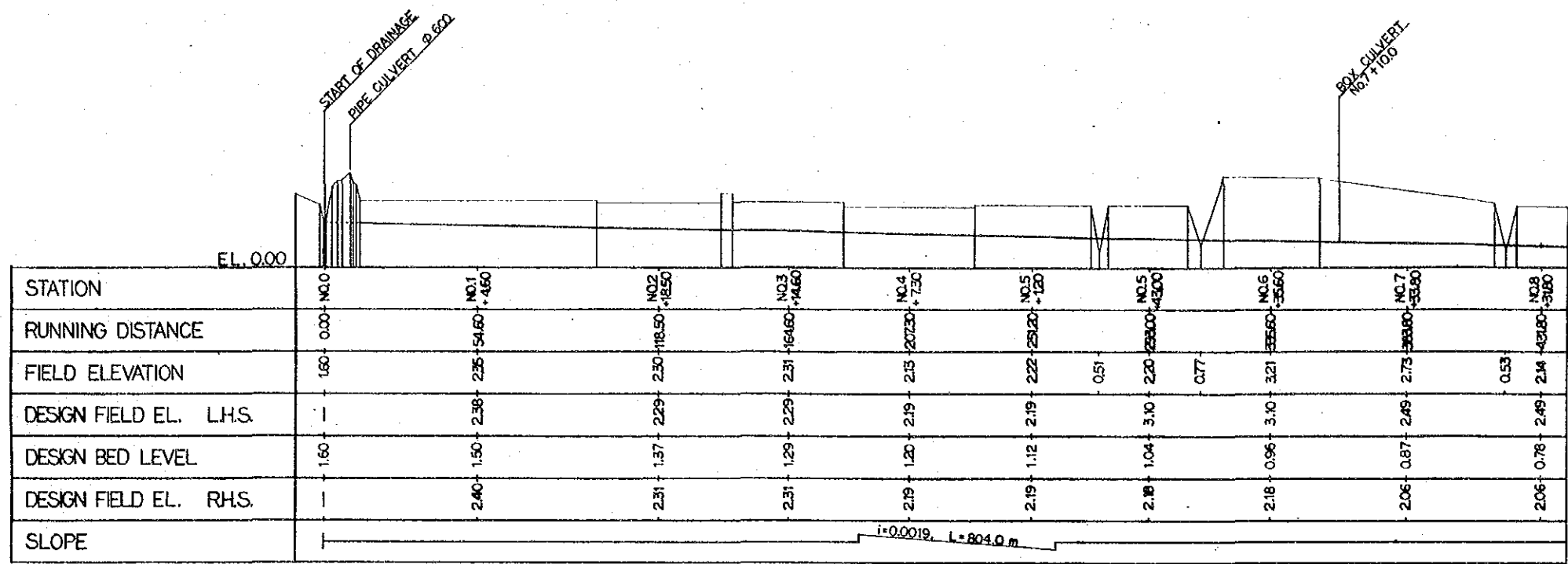


LEGEND

- 28-1 : FIELD NUMBER
- 33-1 : FIELD NUMBER TO BE DONE SURFACE SOIL HANDLING
- EL- : DESIGN FIELD ELEVATION
- O-n : OUTLET WORKS
- IA-n : INLET WORKS A-TYPE
- IB-n : INLET WORKS B-TYPE
- CC-n : CANAL CROSSING WORKS
- B-n : BOX CULVERT
- PC-n : PIPE CULVERT
- TA-n : TRACTOR PASSAGE A-TYPE
- TB-n : TRACTOR PASSAGE B-TYPE
- TC-n : TRACTOR PASSAGE C-TYPE
- TD-n : TRACTOR PASSAGE D-TYPE



THE GOVERNMENT OF FIJI	
THE IMPROVEMENT OF RICE CULTIVATION TECHNOLOGY PROJECT	
TITLE OF DRAWING NAVUA PROJECT	
GENERAL PLAN	
JAPAN INTERNATIONAL COOPERATION AGENCY	DWG. No.
TOKYO JAPAN	1

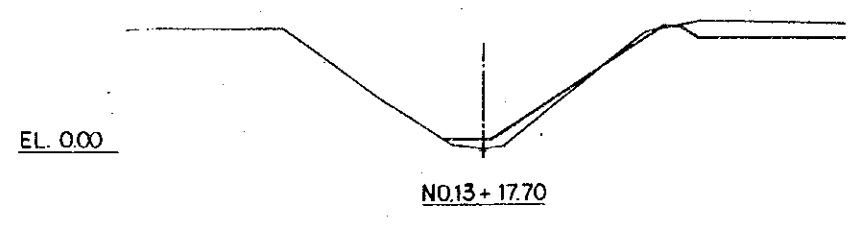
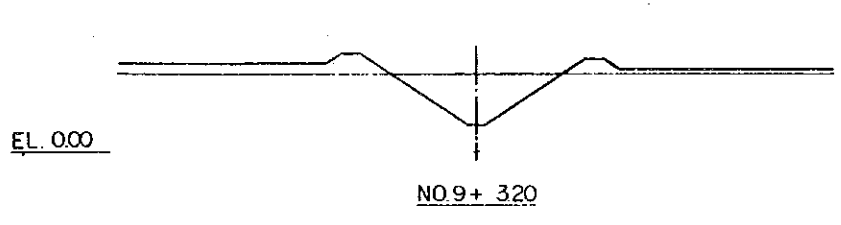
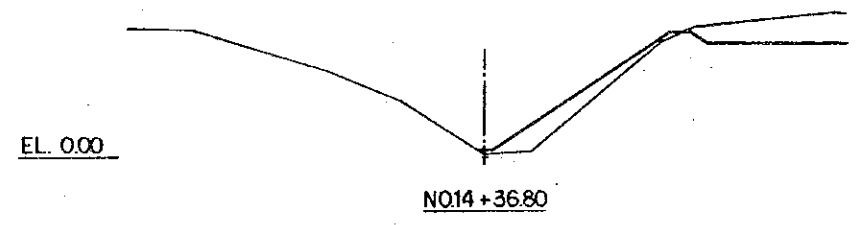
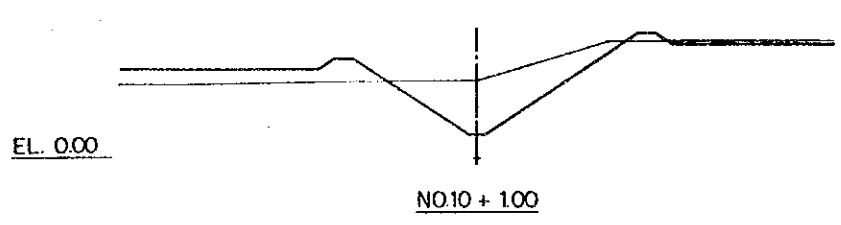
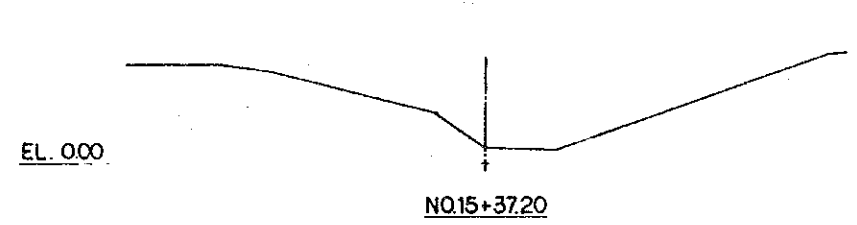
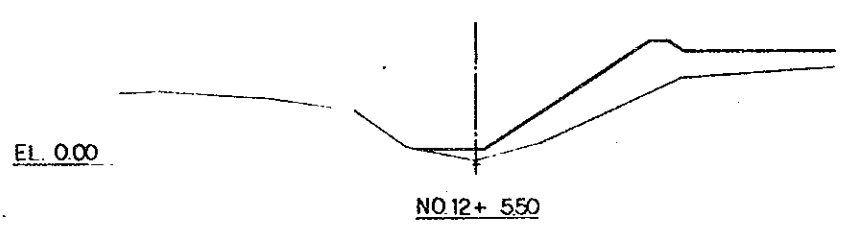
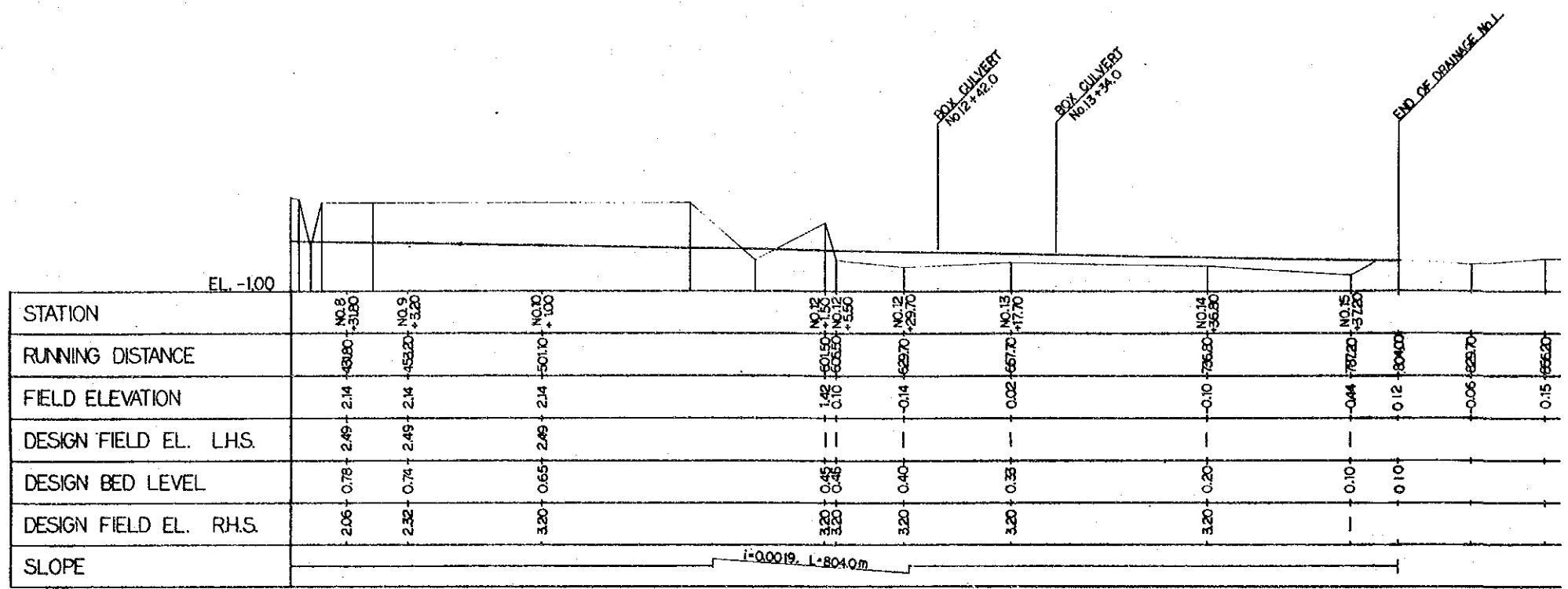


THE GOVERNMENT OF FIJI
 THE IMPROVEMENT OF RICE CULTIVATION
 TECHNOLOGY PROJECT

TITLE OF DRAWING NAVUA PROJECT
 DRAINAGE CANAL No.1
 LONGITUDINAL AND CROSS SECTION (1/2)

JAPAN INTERNATIONAL COOPERATION AGENCY
 TOKYO JAPAN

DWG. No.
 2

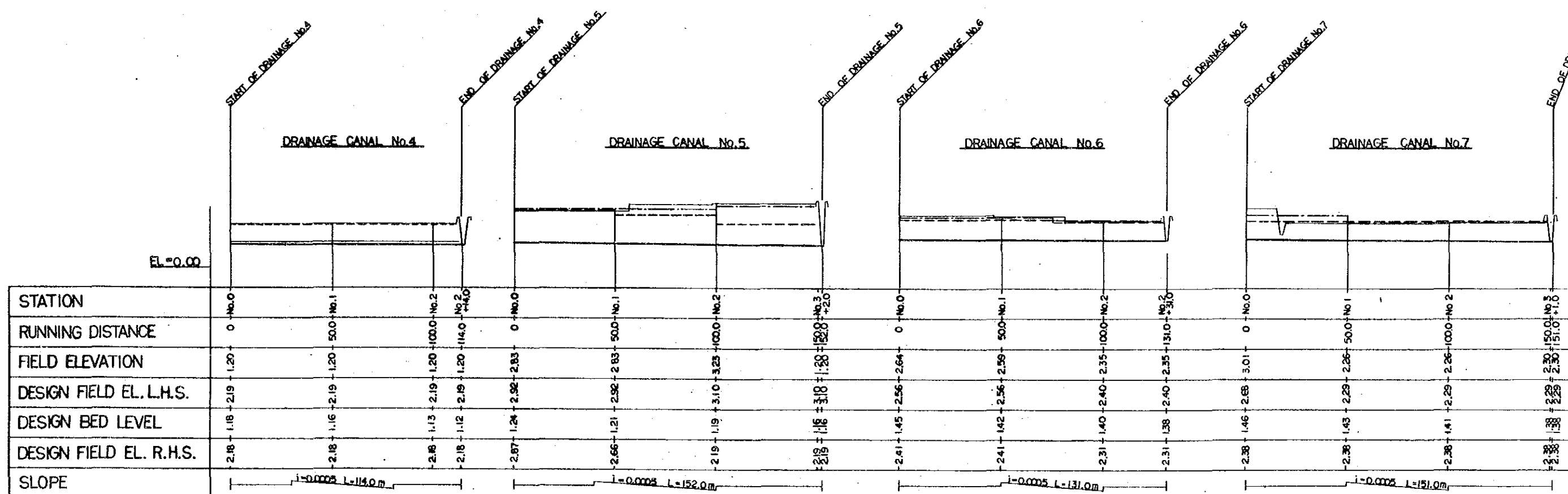
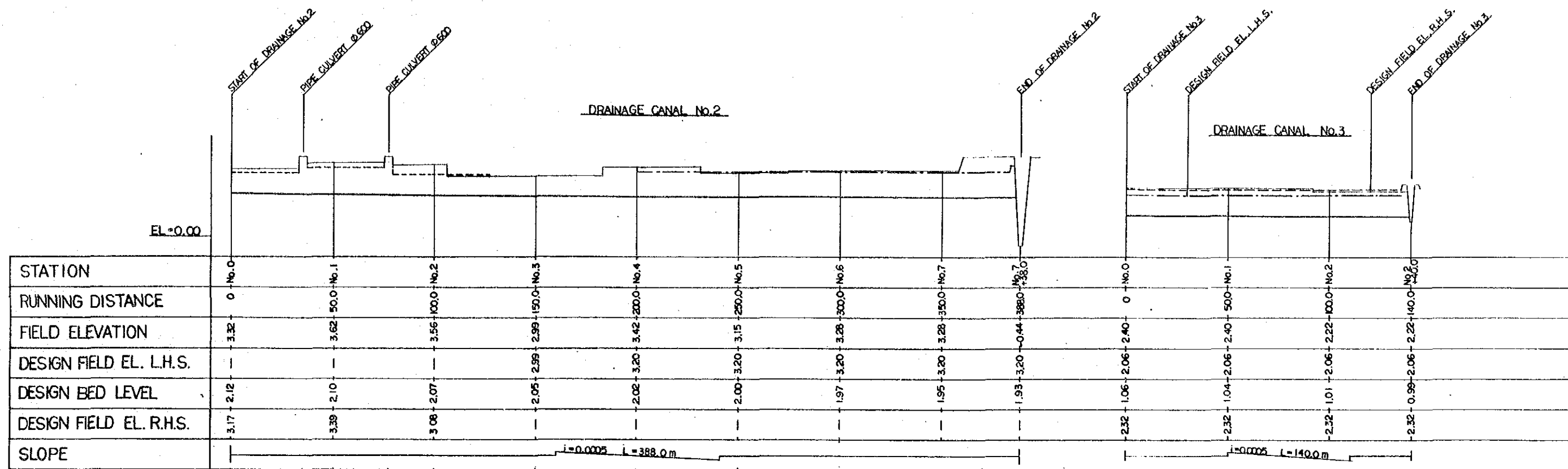


THE GOVERNMENT OF FIJI
 THE IMPROVEMENT OF RICE CULTIVATION
 TECHNOLOGY PROJECT

TITLE OF DRAWING NAVUA PROJECT
 DRAINAGE CANAL No.1
 LONGITUDINAL AND CROSS SECTION(2/2)

JAPAN INTERNATIONAL COOPERATION AGENCY
 TOKYO JAPAN

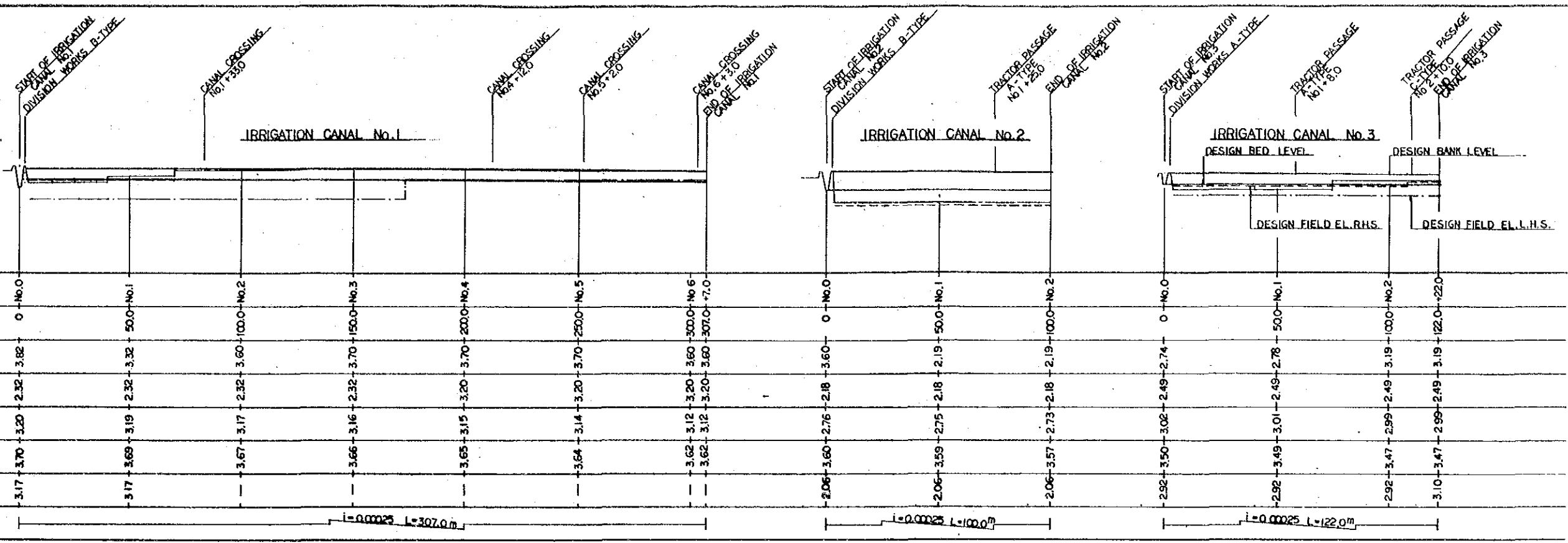
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THE GOVERNMENT OF FIJI
 THE IMPROVEMENT OF RICE CULTIVATION
 TECHNOLOGY PROJECT
 TITLE OF DRAWING NAVUA PROJECT
 DRAINAGE CANAL No.2 - No.7
 LONGITUDINAL SECTION
 JAPAN INTERNATIONAL COOPERATION AGENCY
 TOKYO JAPAN
 DWG. No. 4



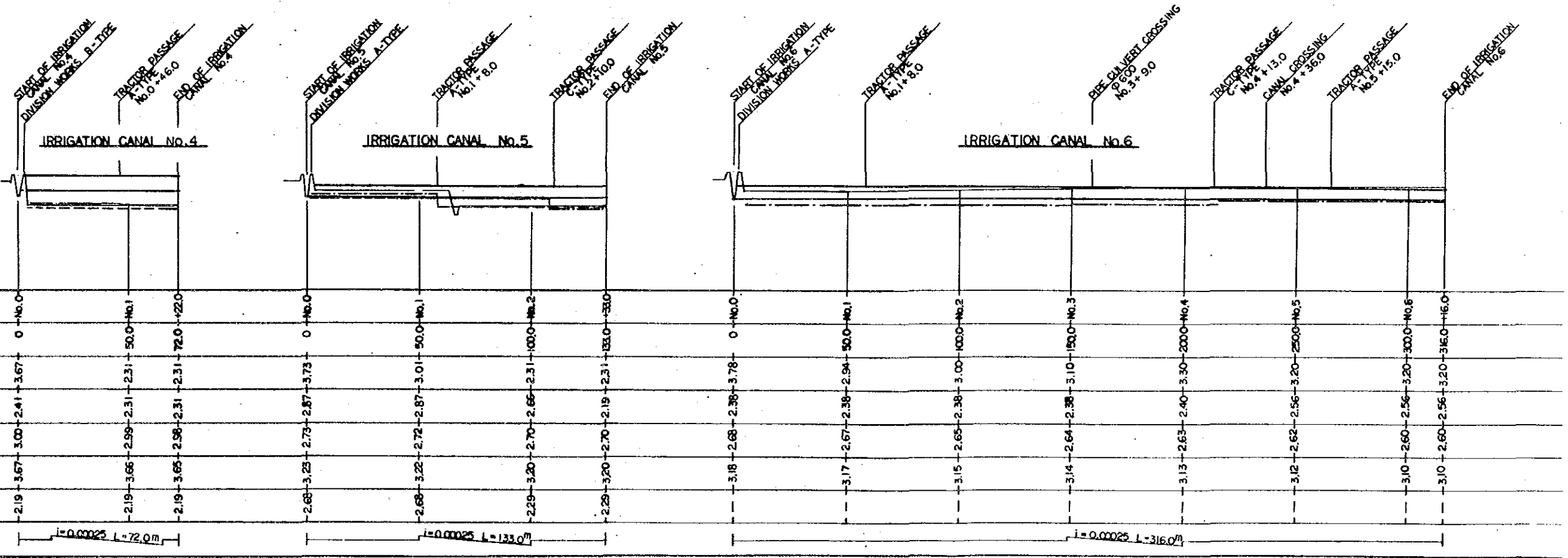
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STATION	0+00	50+00	100+00	150+00	200+00	250+00	300+00	307+00	0+00	50+00	100+00	0+00	50+00	100+00	122+00
RUNNING DISTANCE	0	50.0	100.0	150.0	200.0	250.0	300.0	307.0	0	50.0	100.0	0	50.0	100.0	122.0
FIELD ELEVATION	3.82	3.32	3.60	3.70	3.70	3.70	3.60	3.60	3.60	2.19	2.19	2.74	2.78	3.19	3.19
DESIGN FIELD EL. L.H.S.	2.32	2.32	2.32	2.32	3.20	3.20	3.20	3.20	2.18	2.18	2.49	2.49	2.49	2.49	2.49
DESIGN BED LEVEL	3.20	3.19	3.17	3.16	3.15	3.14	3.12	3.12	2.76	2.75	3.02	3.02	3.01	2.99	2.99
DESIGN BANK LEVEL	3.70	3.69	3.67	3.66	3.65	3.64	3.62	3.62	3.60	3.59	3.57	3.50	3.49	3.47	3.47
DESIGN FIELD EL. R.H.S.	3.17	3.17	3.17	3.17	3.20	3.20	3.20	3.20	2.06	2.06	2.49	2.49	2.49	2.49	2.49
SLOPE	i=0.00025 L=307.0m							i=0.00025 L=100.0m			i=0.00025 L=122.0m				

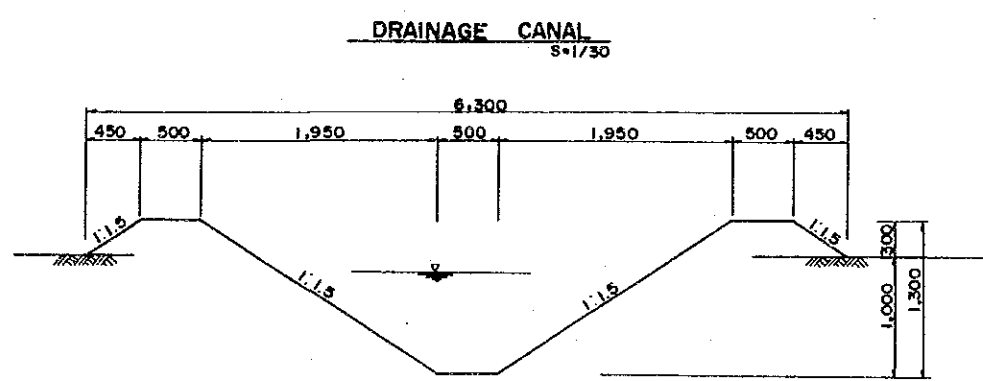
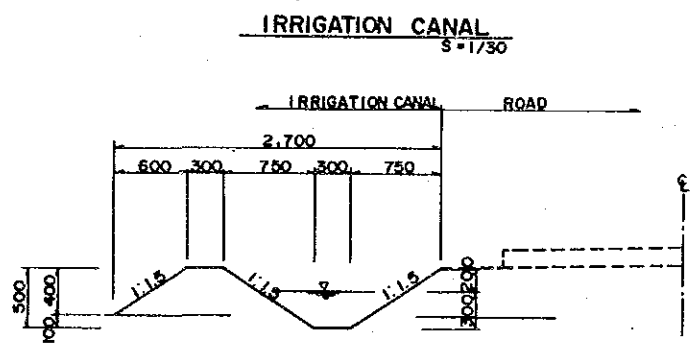
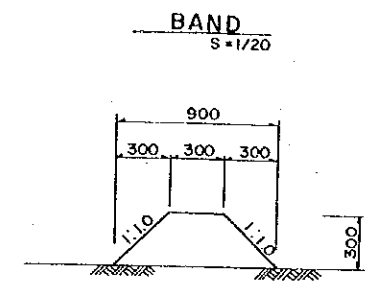
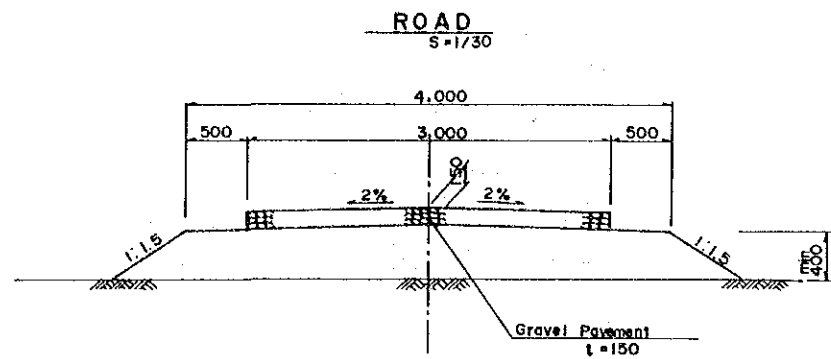


EL = 0.00



STATION	0+00	50+00	72+00	0+00	50+00	100+00	133+00	0+00	50+00	100+00	150+00	200+00	250+00	300+00	316+00
RUNNING DISTANCE	0	50.0	72.0	0	50.0	100.0	133.0	0	50.0	100.0	150.0	200.0	250.0	300.0	316.0
FIELD ELEVATION	3.67	2.31	2.31	3.73	3.01	2.31	2.31	3.78	2.94	3.00	3.10	3.30	3.20	3.20	3.16
DESIGN FIELD EL. L.H.S.	2.41	2.31	2.31	2.87	2.87	2.65	2.65	2.38	2.38	2.38	2.38	2.40	2.56	2.56	2.56
DESIGN BED LEVEL	3.02	2.99	2.98	2.73	2.72	2.70	2.70	2.68	2.67	2.65	2.64	2.63	2.62	2.60	2.60
DESIGN BANK LEVEL	3.67	3.66	3.65	3.23	3.22	3.20	3.20	3.18	3.17	3.15	3.14	3.13	3.12	3.10	3.10
DESIGN FIELD EL. R.H.S.	2.19	2.19	2.19	2.68	2.68	2.68	2.68	2.38	2.38	2.38	2.38	2.40	2.40	2.40	2.40
SLOPE	i=0.00025 L=72.0m			i=0.00025 L=133.0m				i=0.00025 L=316.0m							

THE GOVERNMENT OF FIJI
 THE IMPROVEMENT OF RICE CULTIVATION
 TECHNOLOGY PROJECT
 TITLE OF DRAWING NAVUA PROJECT
 IRRIGATION CANAL No 1 - No 6
 LONGITUDINAL SECTION
 JAPAN INTERNATIONAL COOPERATION AGENCY
 TOKYO JAPAN
 DWG. No. 5

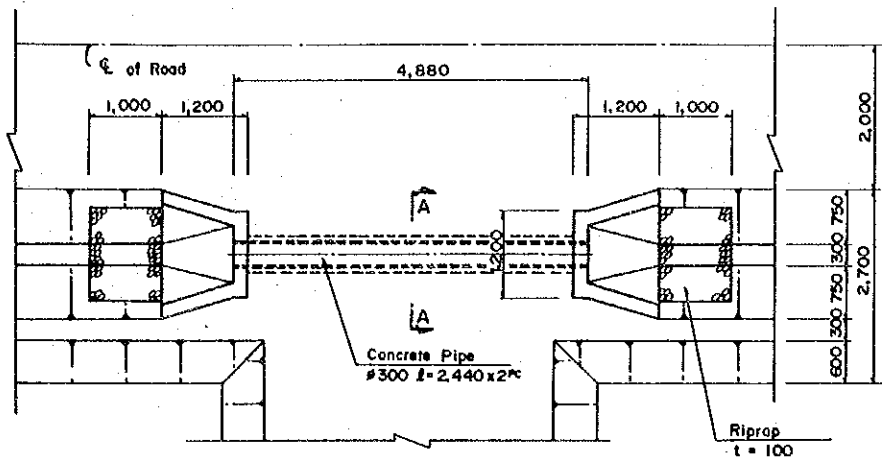


THE GOVERNMENT OF FIJI THE IMPROVEMENT OF RICE CULTIVATION TECHNOLOGY PROJECT	
TITLE OF DRAWING NAVUA PROJECT TYPICAL SECTIONS OF ROAD, IRRIGATION CANAL, DRAINAGE CANAL AND BAND	
JAPAN INTERNATIONAL COOPERATION AGENCY TOKYO JAPAN	OWG. NO 6

CANAL CROSSING

S=1/750

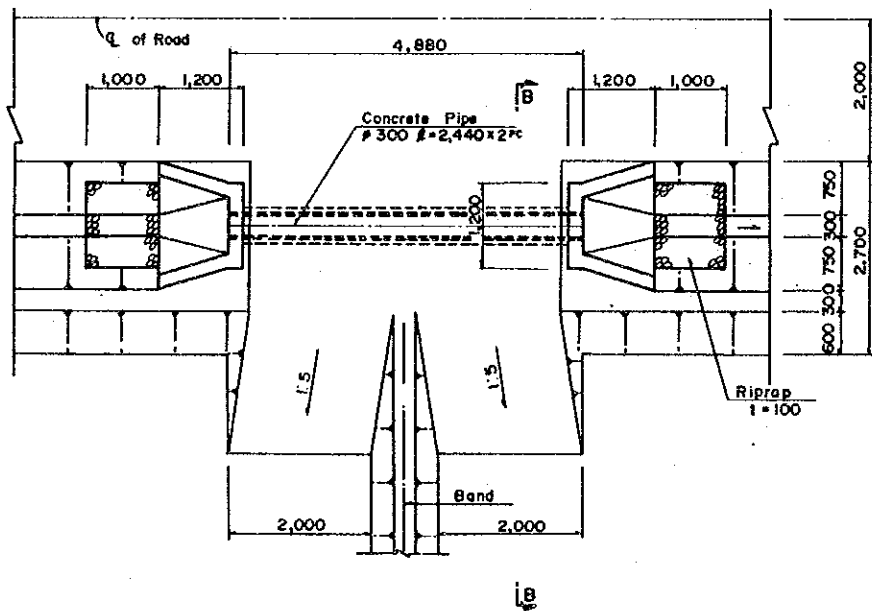
PLAN



TRACTOR PASSAGE A-TYPE

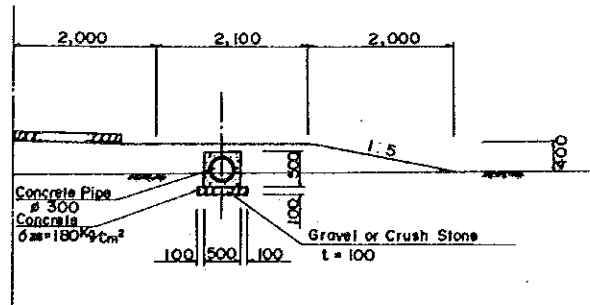
S=1/750

PLAN



B-B SECTION

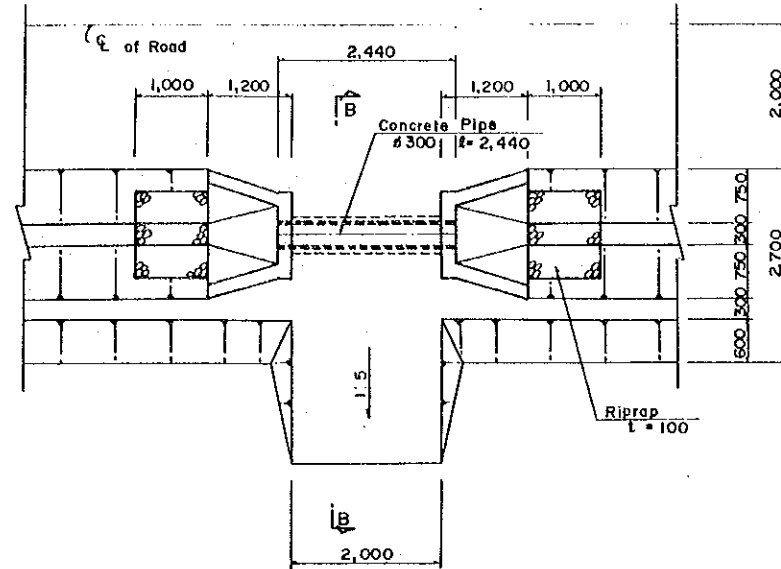
S=1/750



TRACTOR PASSAGE C-TYPE

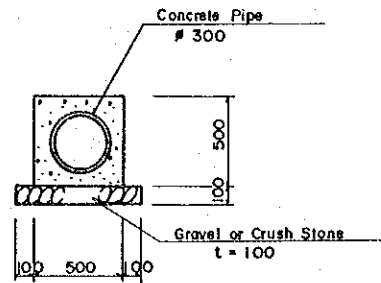
S=1/750

PLAN



A-A SECTION

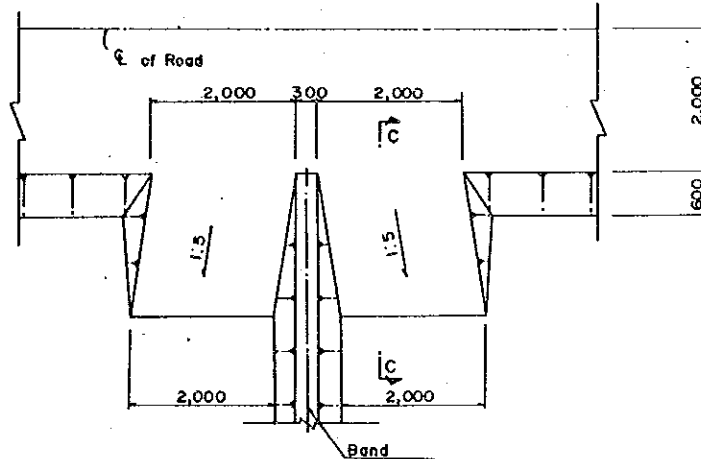
S=1/20



TRACTOR PASSAGE B-TYPE

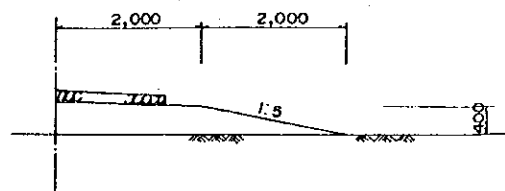
S=1/750

PLAN



C-C SECTION

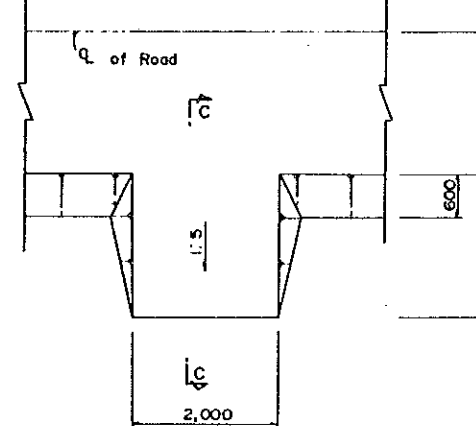
S=1/750



TRACTOR PASSAGE D-TYPE

S=1/750

PLAN

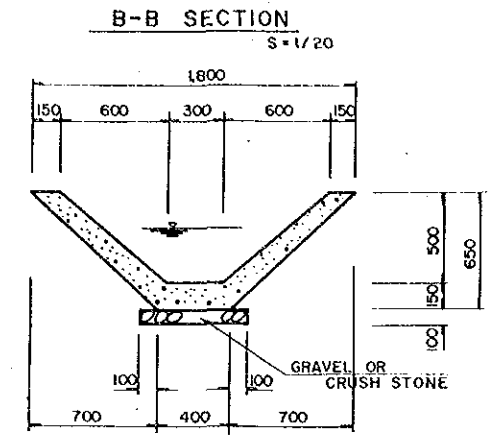
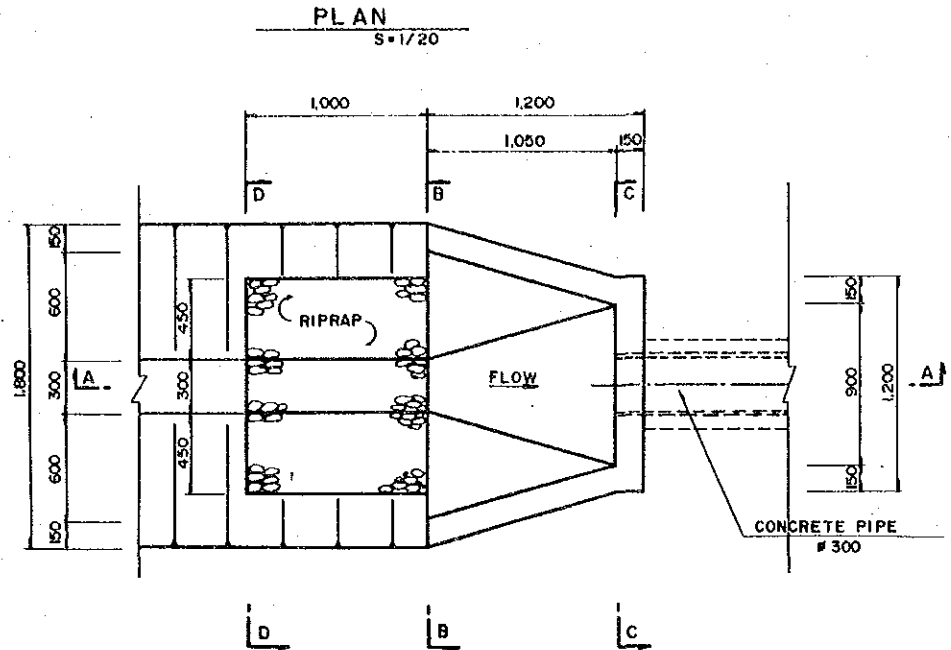


THE GOVERNMENT OF FIJI
 THE IMPROVEMENT OF RICE CULTIVATION
 TECHNOLOGY PROJECT

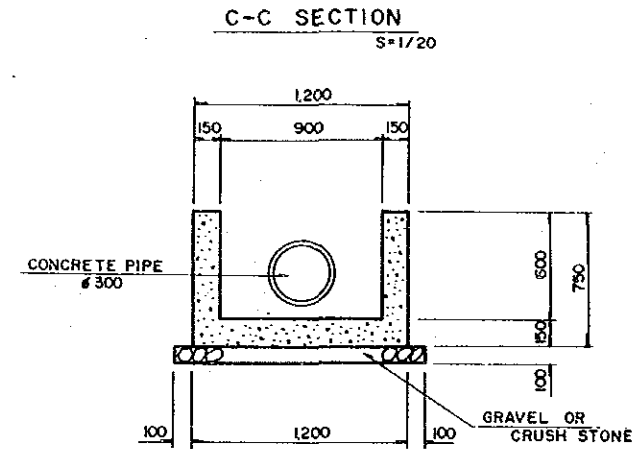
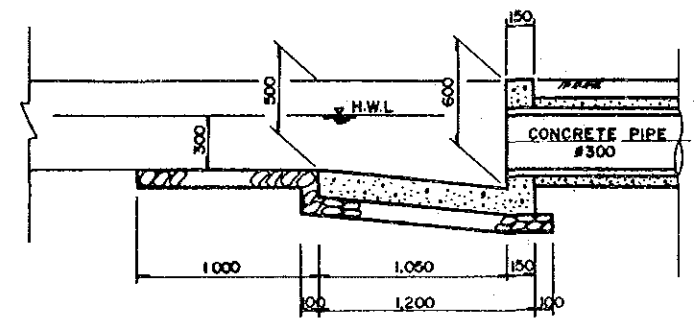
TITLE OF DRAWING HAVUA PROJECT
CANAL CROSSING AND TRACTOR PASSAGE

JAPAN INTERNATIONAL COOPERATION AGENCY
 TOKYO JAPAN

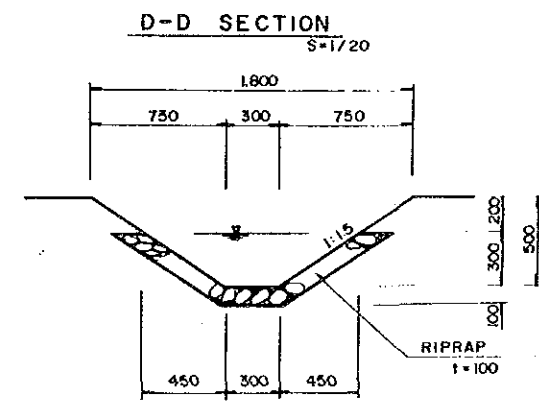
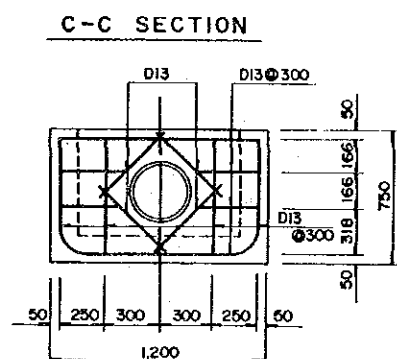
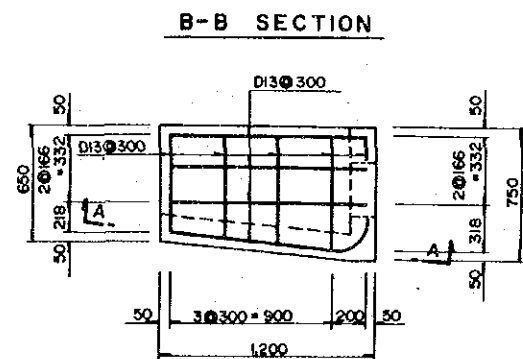
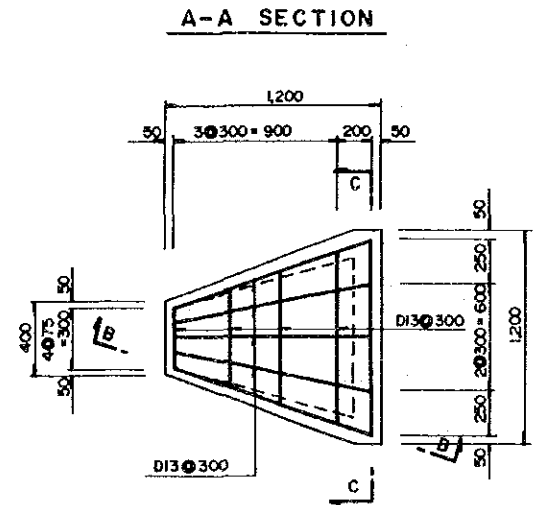
DWG. NO
7



A-A SECTION



REINFORCEMENT ARRANGEMENT
S=1/20



THE GOVERNMENT OF FIJI
THE IMPROVEMENT OF RICE CULTIVATION
TECHNOLOGY PROJECT

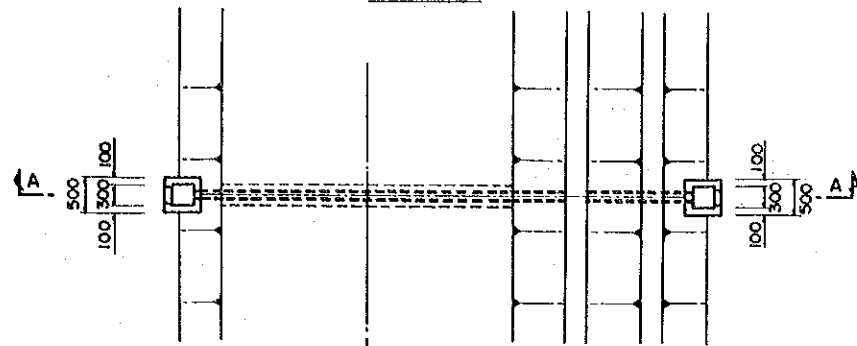
TITLE OF DRAWING NAUVUA PROJECT
**DETAIL OF INLET AND OUTLET FOR CANAL
CROSSING AND TRACTOR PASSAGE**

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

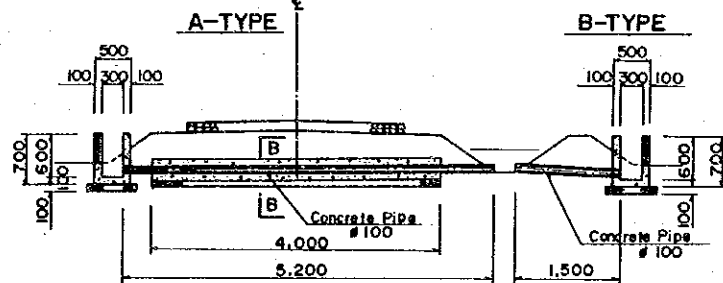
DWG NO
8

INLET WORKS
S=1/50

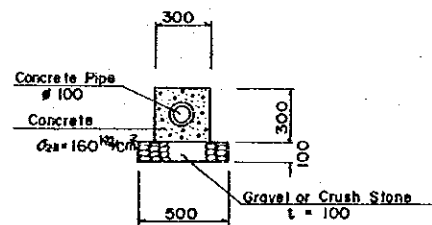
PLAN



A-A SECTION
S=1/50

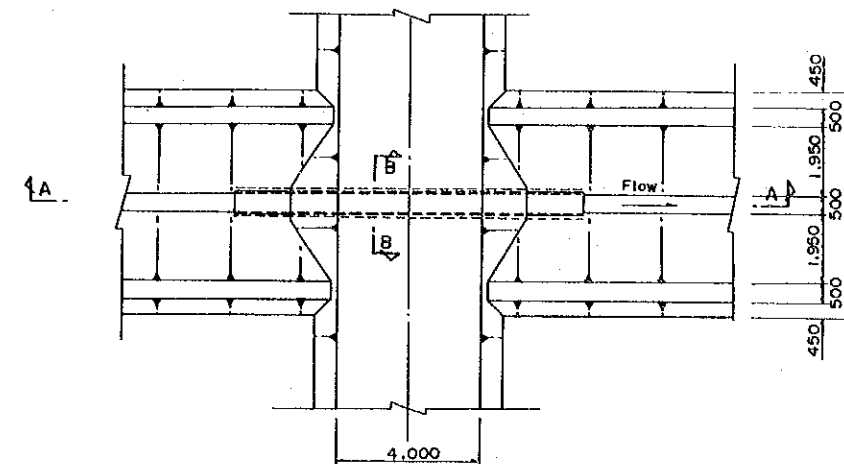


B-B SECTION
S=1/20

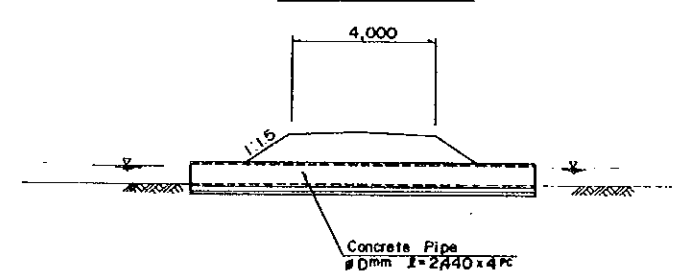


PIPE CULVERT
S=1/100

PLAN

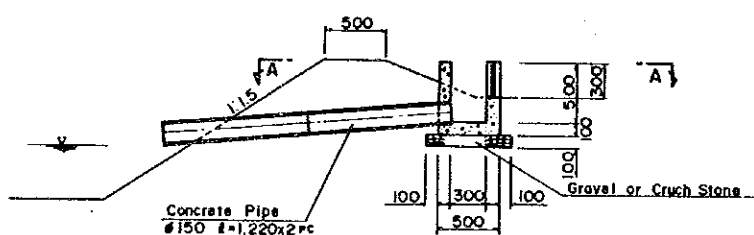


A-A SECTION

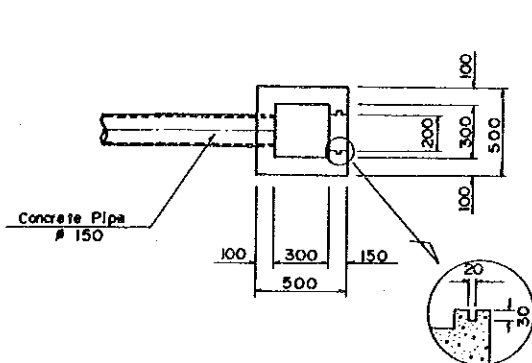


OUTLET WORKS
S=1/30

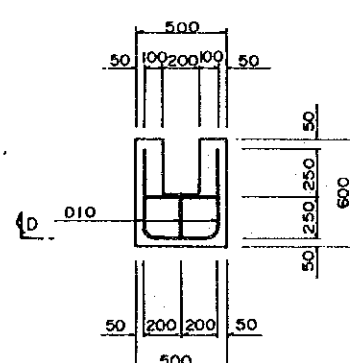
CROSS SECTION



A-A SECTION
S=1/20

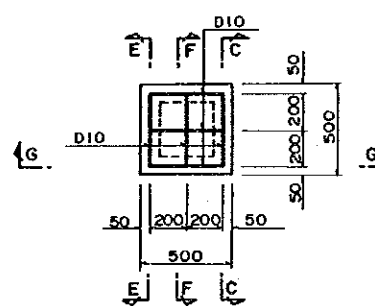


C-C SECTION

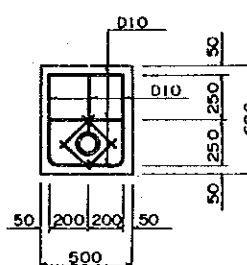


REINFORCEMENT ARRANGEMENT
S=1/20

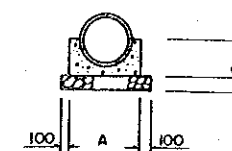
D-D SECTION



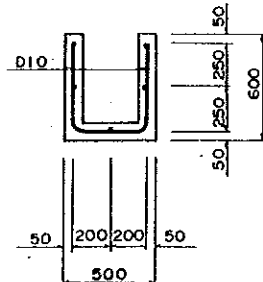
E-E SECTION



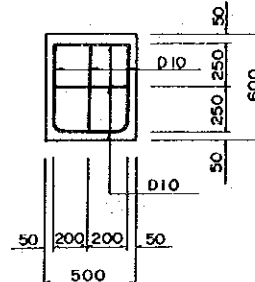
B-B SECTION



F-F SECTION



G-G SECTION



DIMENSION TABLE

	Pipe Dia	A (mm)
A-TYPE	1,225	1,500
B-TYPE	600	800

THE GOVERNMENT OF FIJI
THE IMPROVEMENT OF RICE CULTIVATION
TECHNOLOGY PROJECT

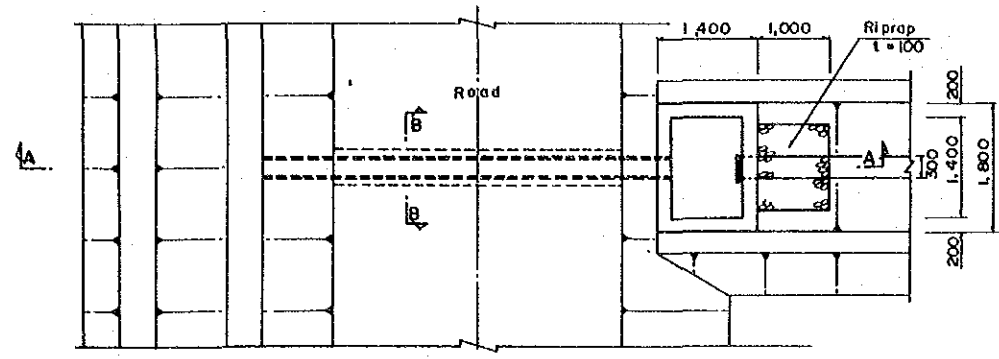
TITLE OF DRAWING NAVUA PROJECT
INLET WORKS, OUTLETWORKS AND PIPE CULVERT

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

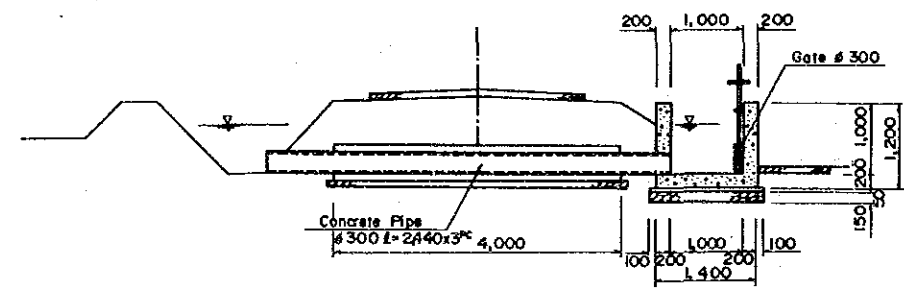
DWG. NO
9

DIVISION WORKS A-TYPE
S=1/750

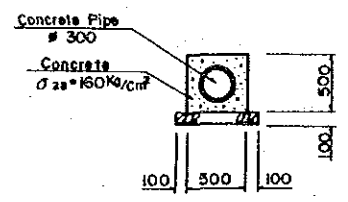
PLAN



A-A SECTION

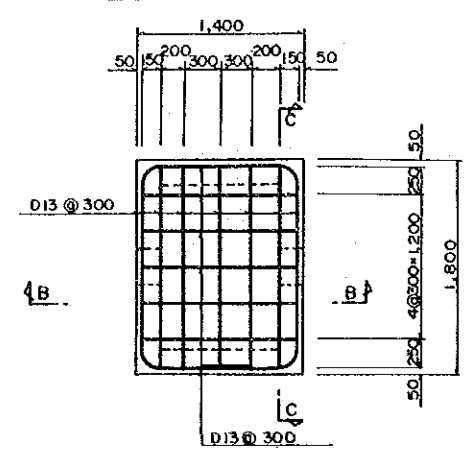


B-B SECTION
S=1/30

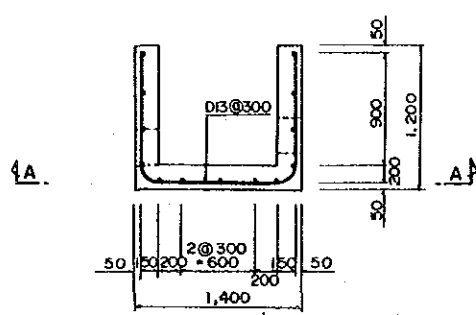


REINFORCEMENT ARRANGEMENT
S=1/30

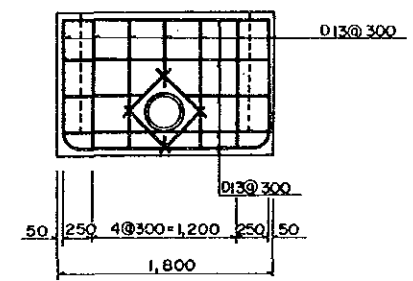
A-A SECTION



B-B SECTION

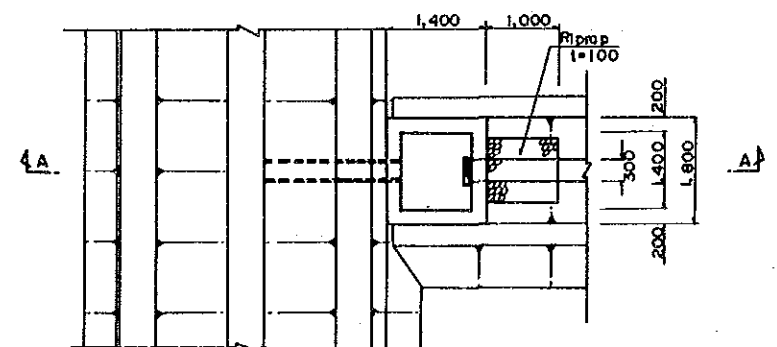


C-C SECTION

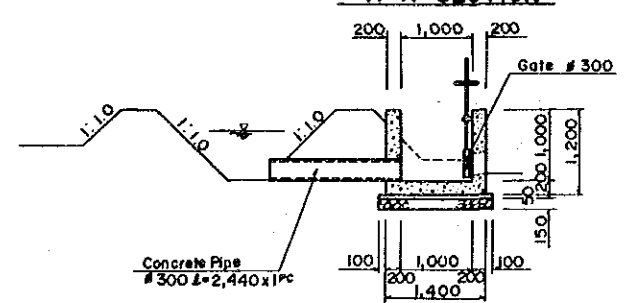


DIVISION WORKS B-TYPE
S=1/750

PLAN



A-A SECTION



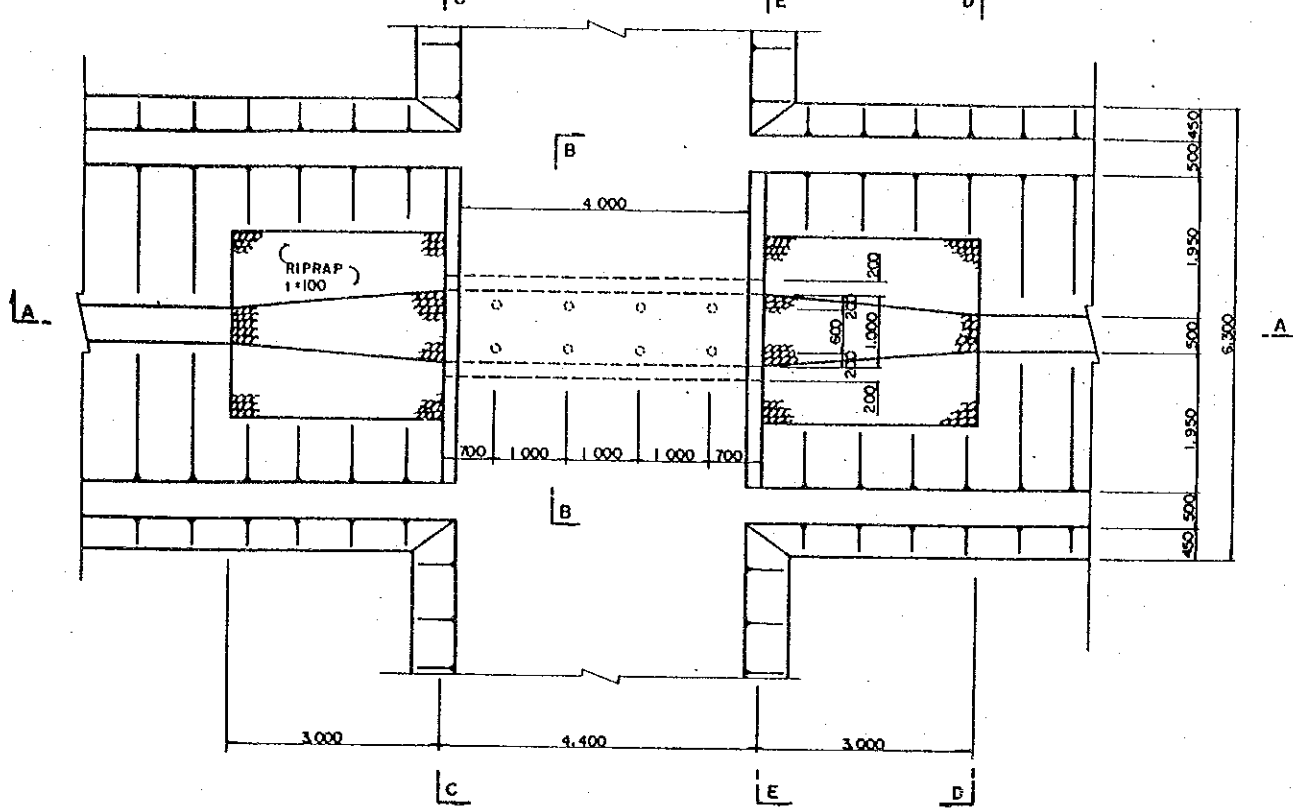
THE GOVERNMENT OF FIJI
THE IMPROVEMENT OF RICE CULTIVATION
TECHNOLOGY PROJECT
TITLE OF DRAWING NAVUA PROJECT
DIVISION WORKS
JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN
DWG. NO
10

BOX CULVERT

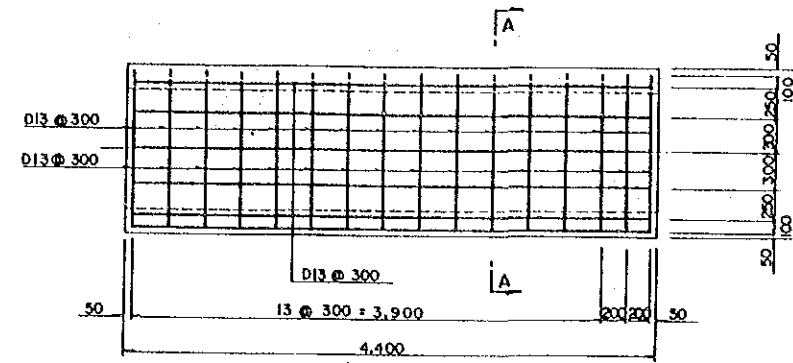
REINFORCEMENT ARRANGEMENT

S:1/30

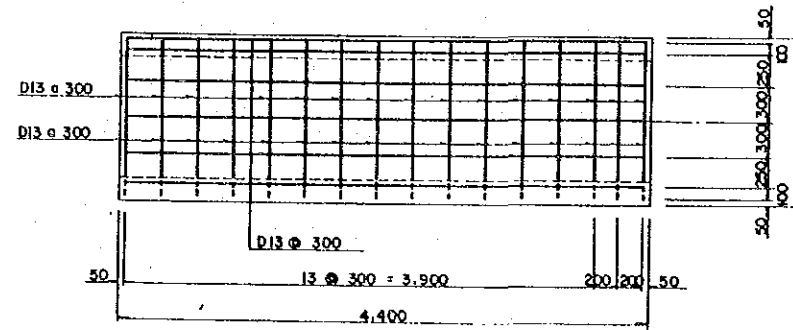
PLAN
S:1/50



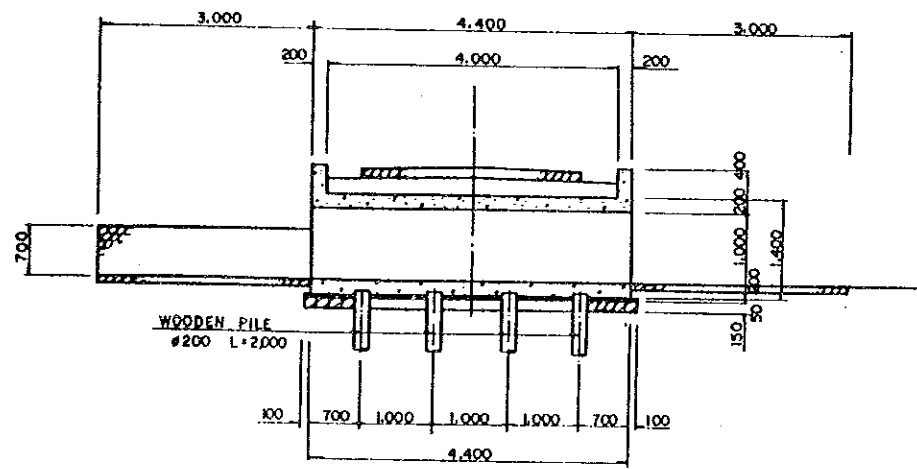
B-B SECTION



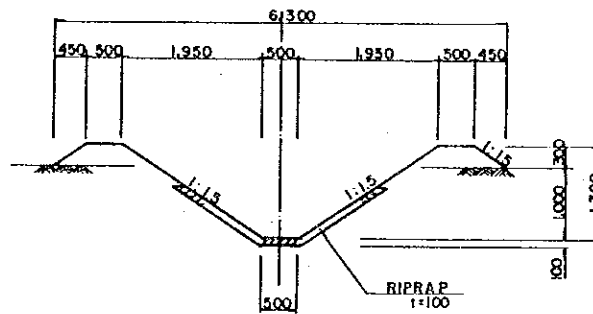
C-C SECTION



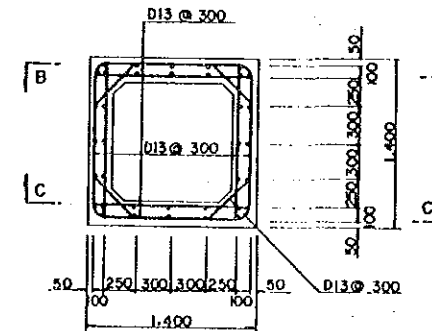
A-A SECTION
S:1/50



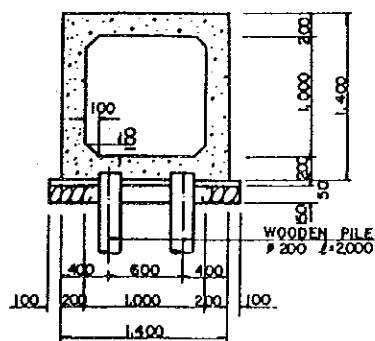
D-D SECTION
S:1/50



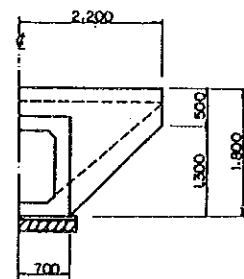
A-A SECTION



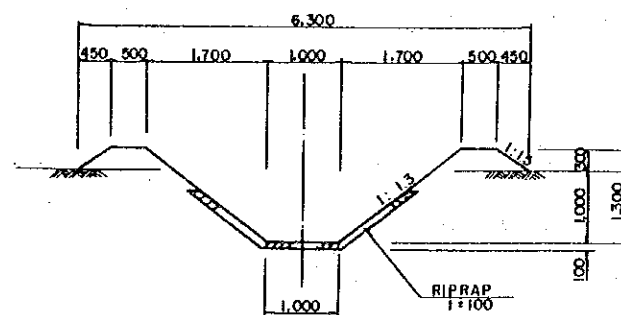
B-B SECTION
S:1/30



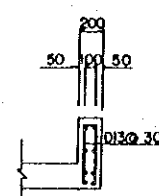
C-C SECTION
S:1/50



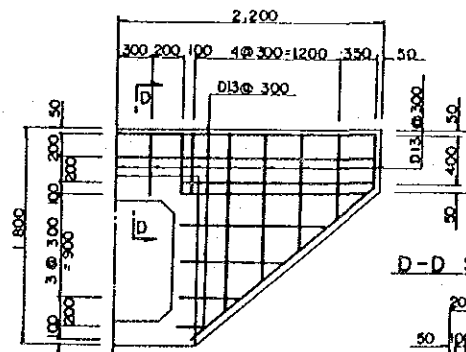
E-E SECTION
S:1/50



D-D SECTION

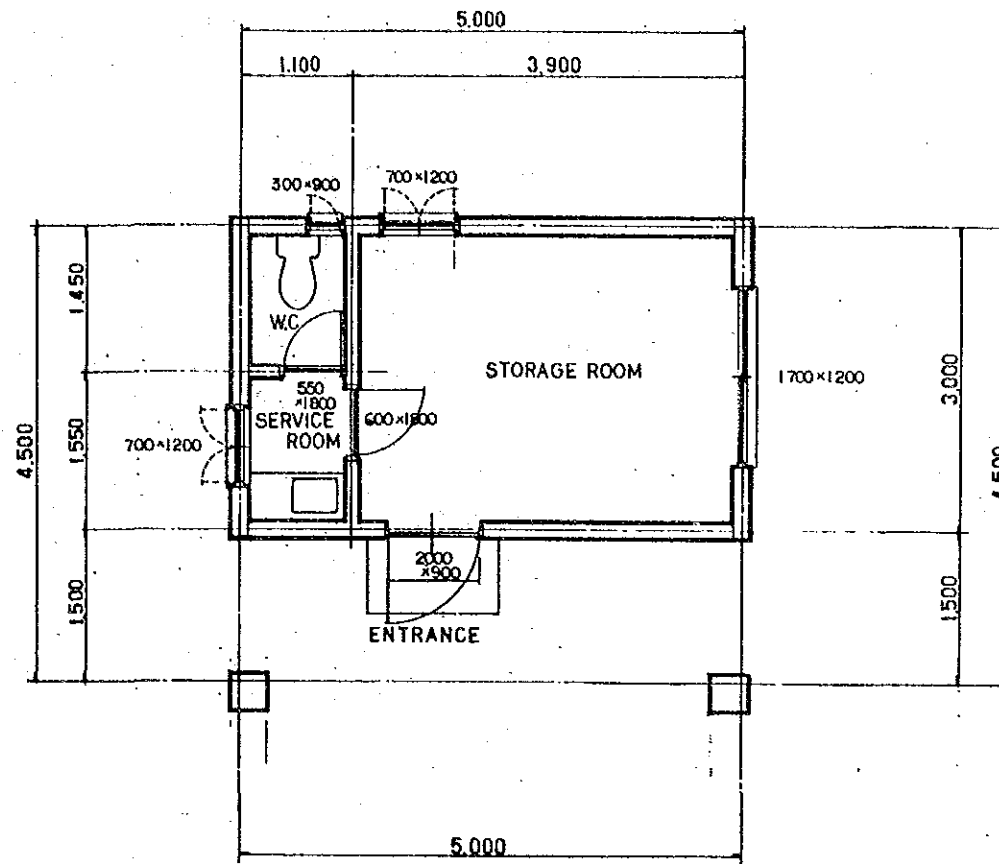


WING



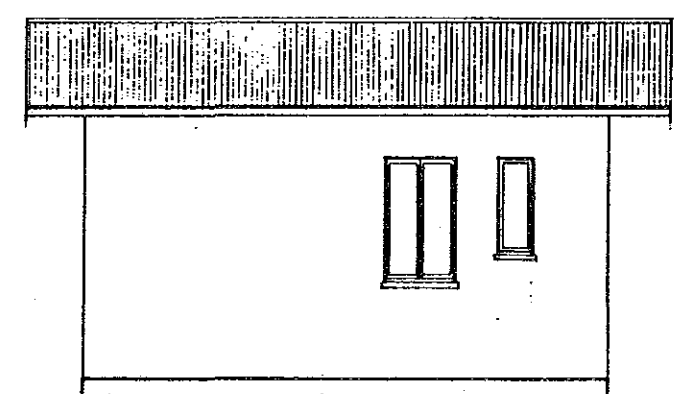
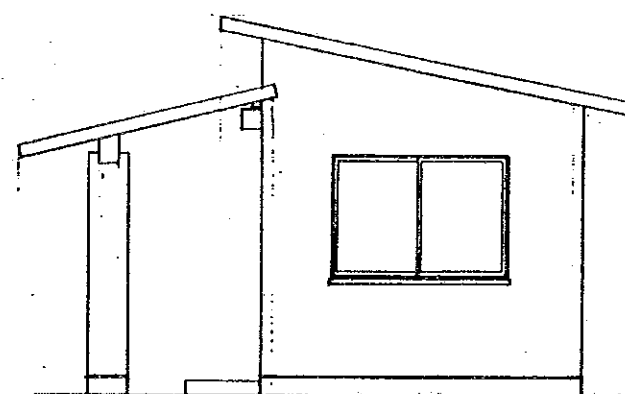
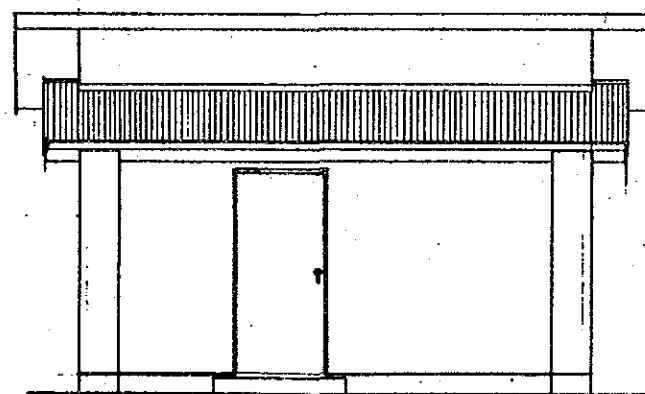
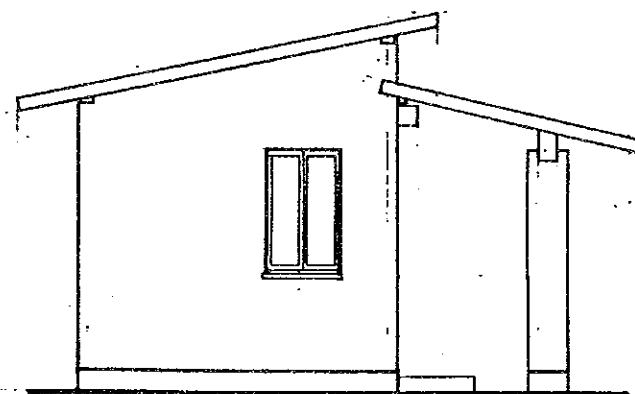
THE GOVERNMENT OF FIJI
THE IMPROVEMENT OF RICE CULTIVATION
TECHNOLOGY PROJECT
TITLE OF DRAWING NAVUA PROJECT
BOX CULVERT
JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

DWG NO
11



Storage room interior finish

Floor	Floor Concrete Finish
Baseboard	Emulsion Paint
Wall	Emulsion paint on pre mixed plaster
Celing	
Remark	

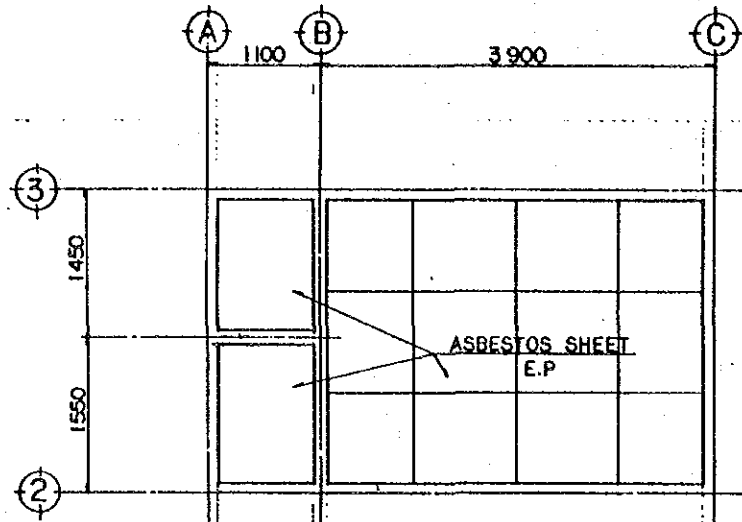


Exterior finish

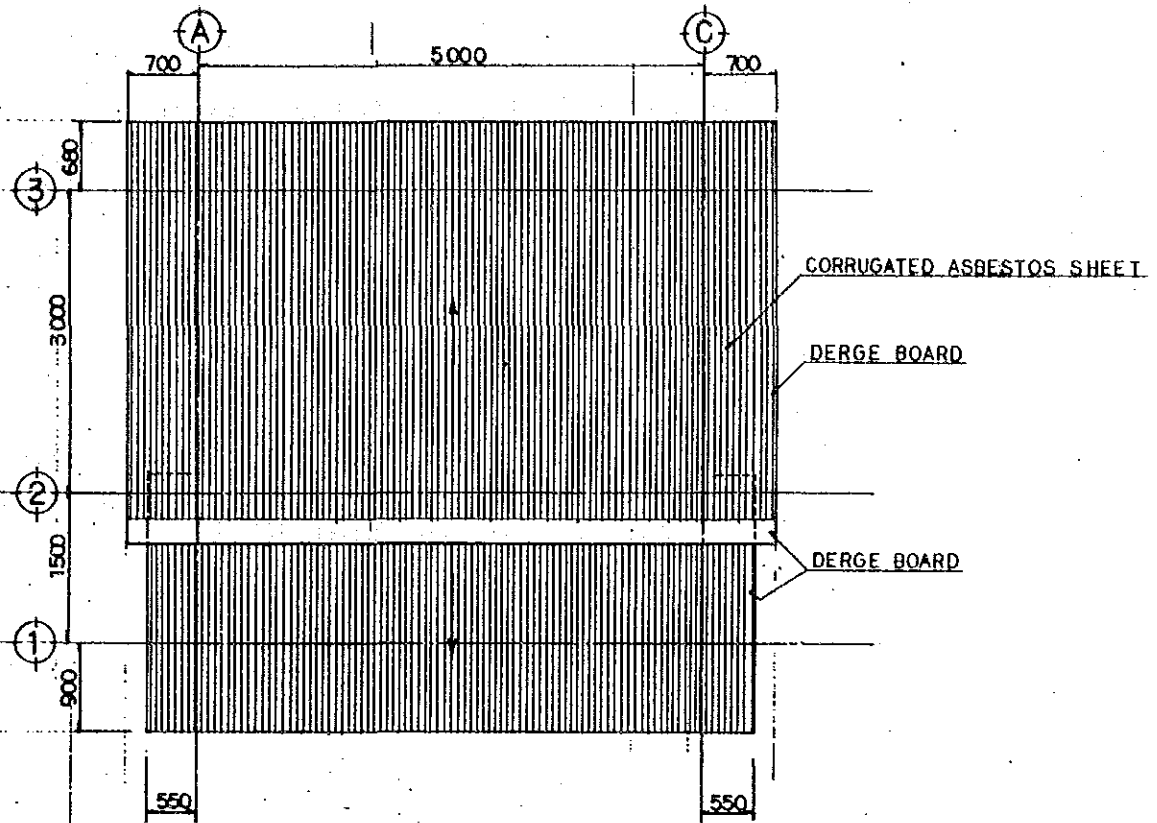
Roof	Corrugated asbestos sheet
Wall	Emulsion paint
Remark	

THE GOVERNMENT OF FIJI THE IMPROVEMENT OF RICE CULTIVATION TECHNOLOGY PROJECT	
TITLE OF DRAWING HAVUA PROJECT STORAGE HOUSE (1)	
JAPAN INTERNATIONAL COOPERATION AGENCY TOKYO JAPAN	DWG. NO 12

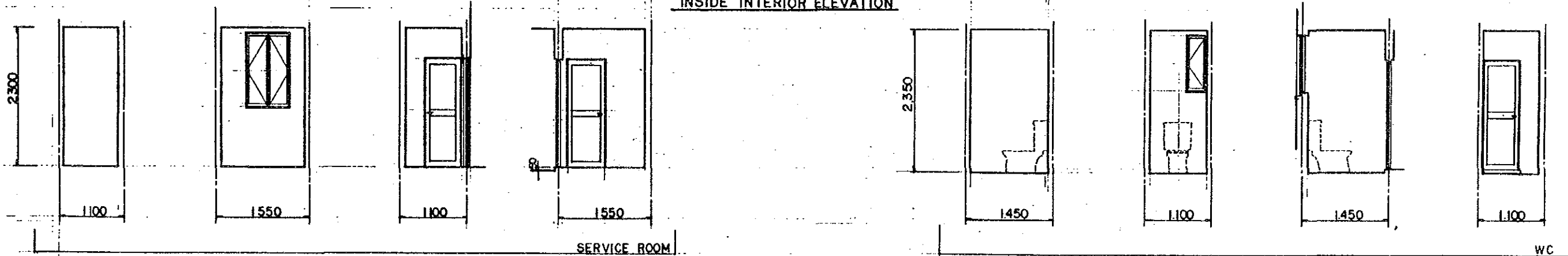
CEILING PLAN



ROOFING PLAN

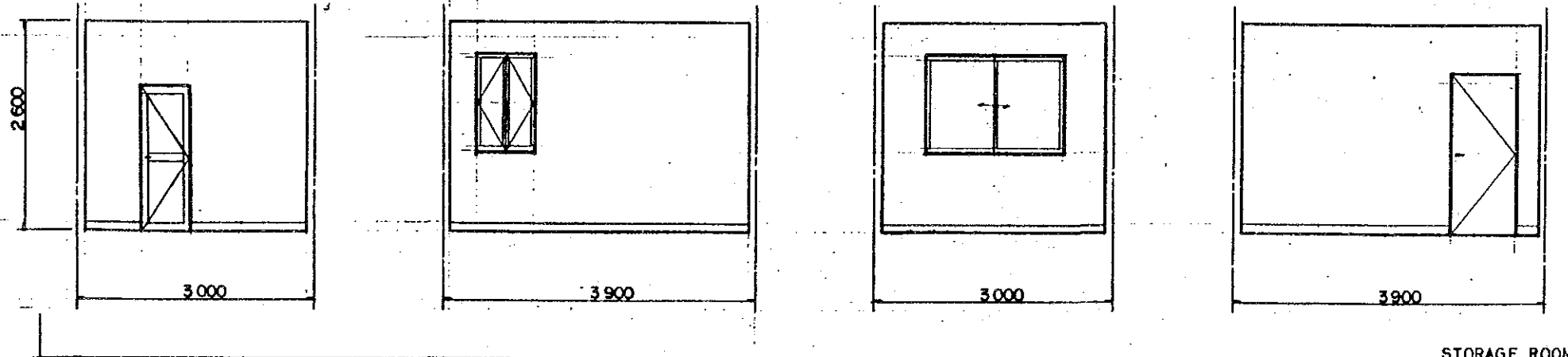


INSIDE INTERIOR ELEVATION



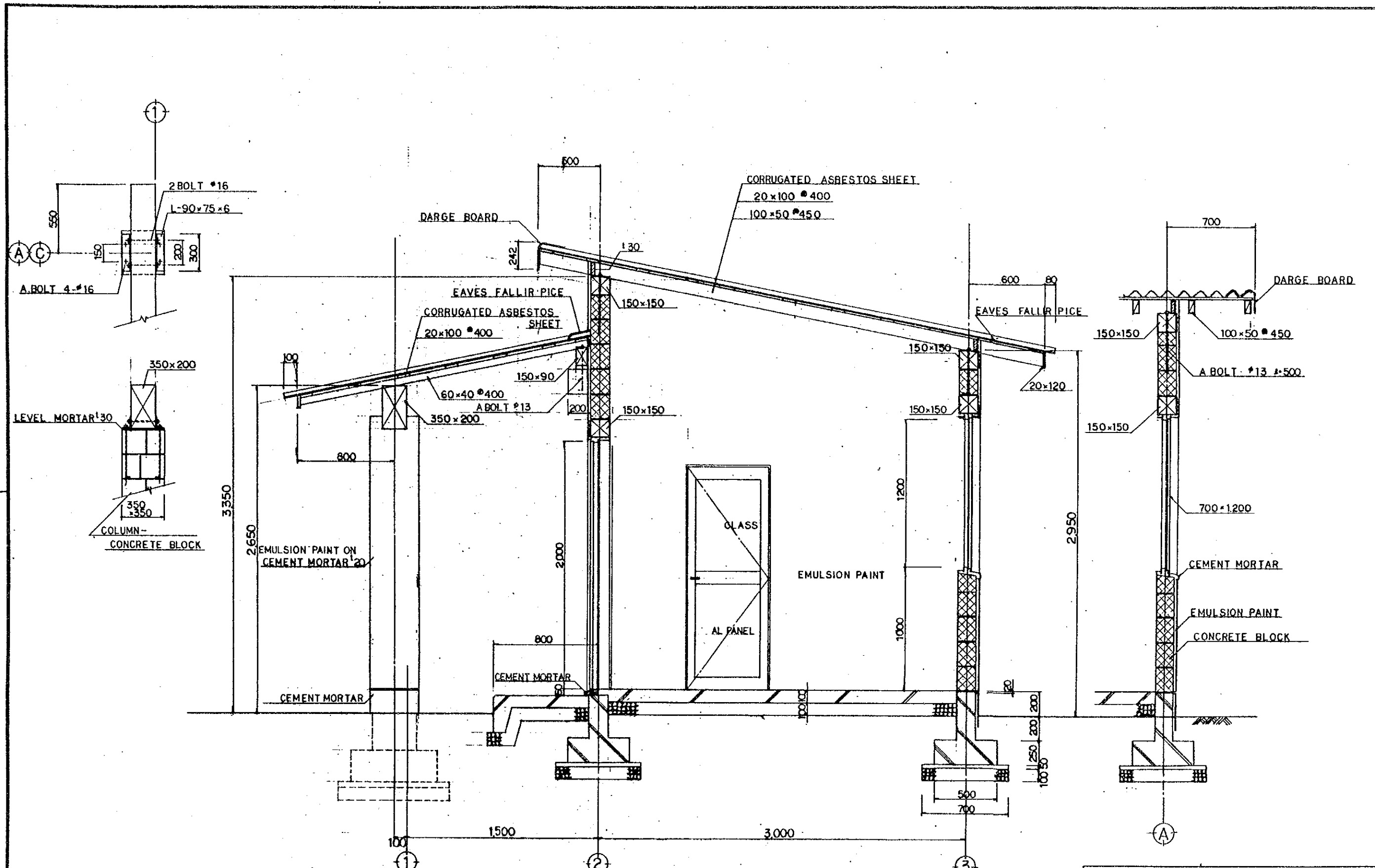
SERVICE ROOM

WC

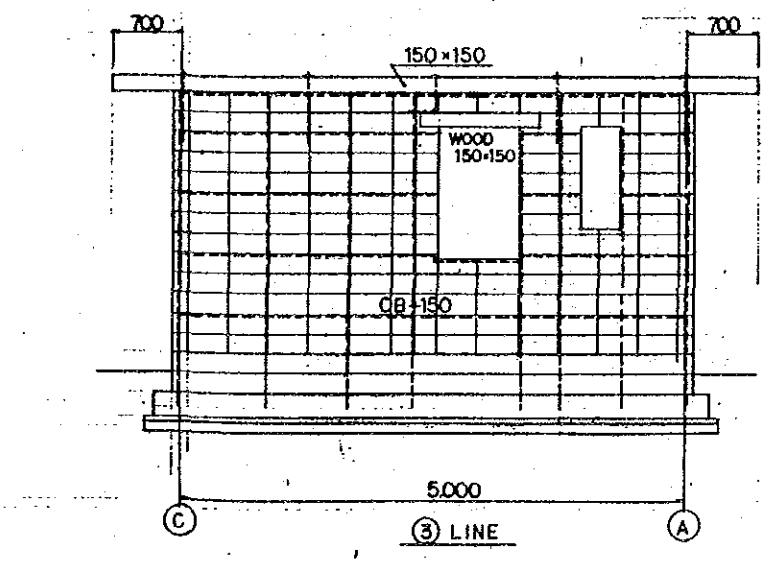
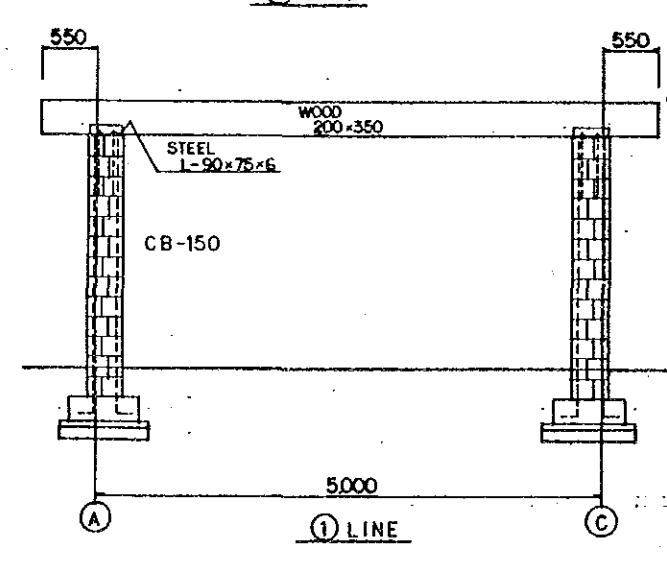
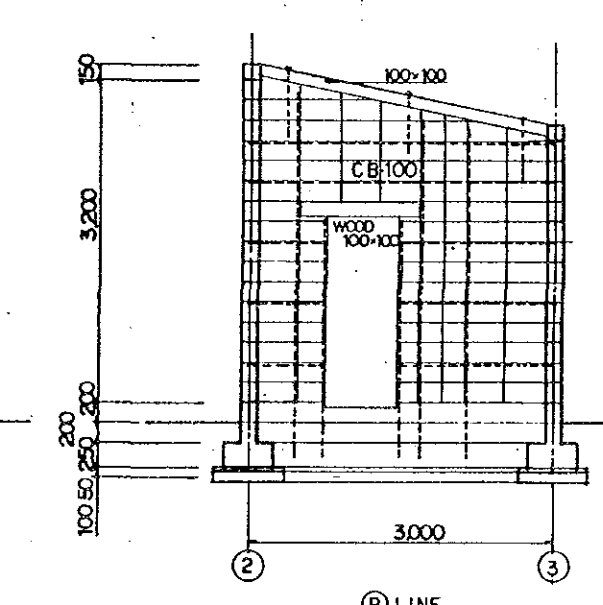
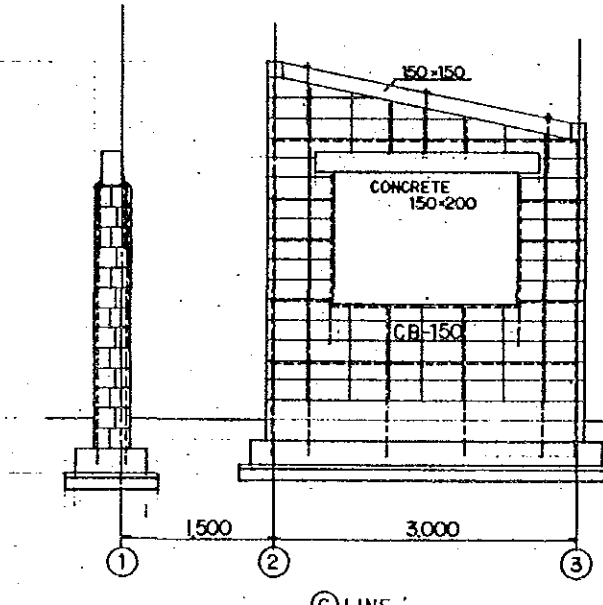
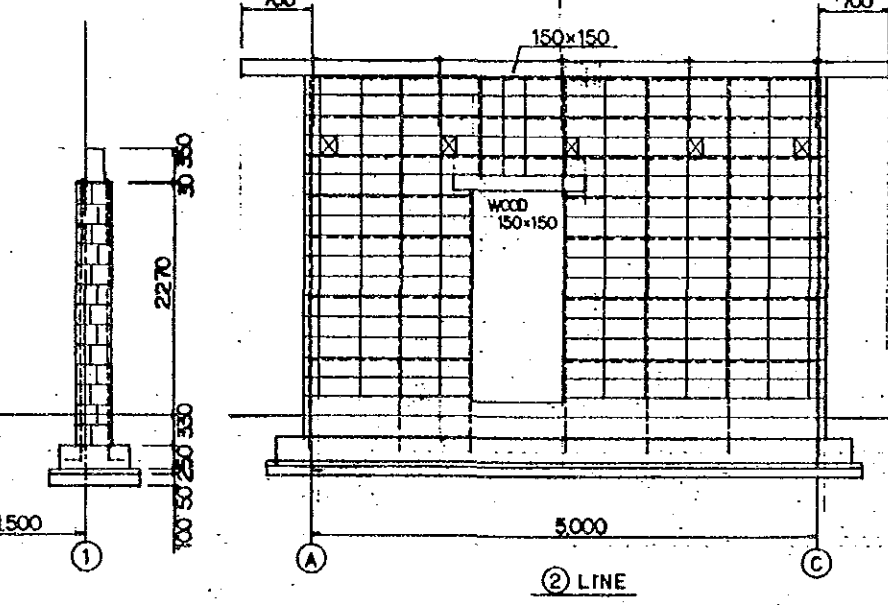
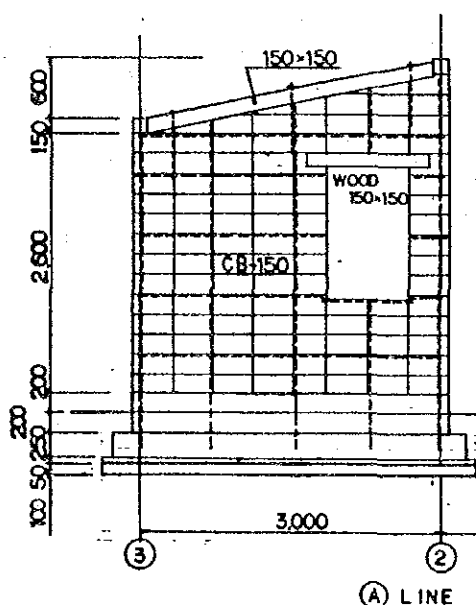
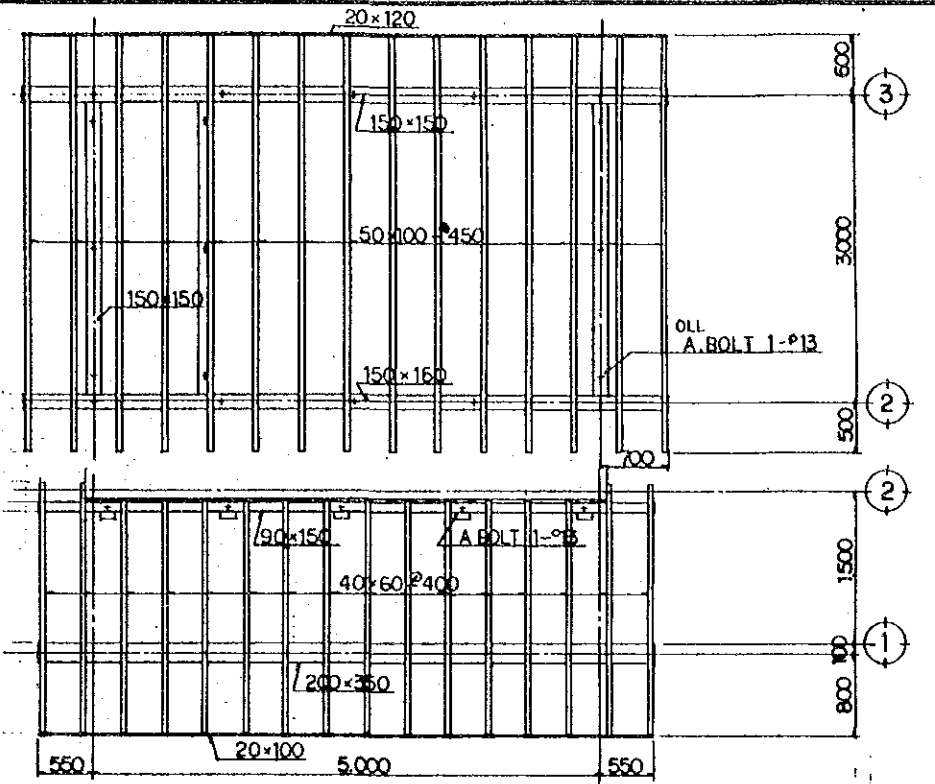
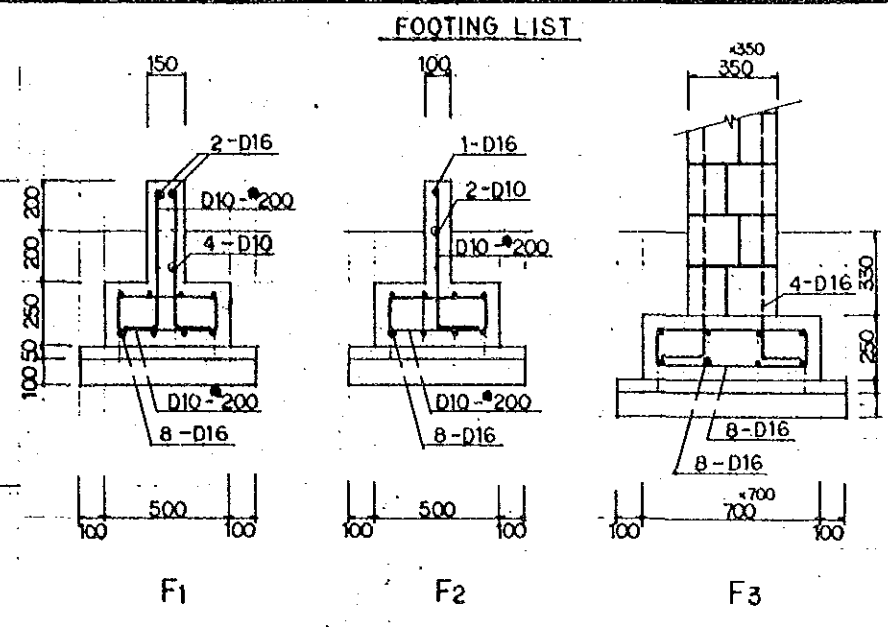
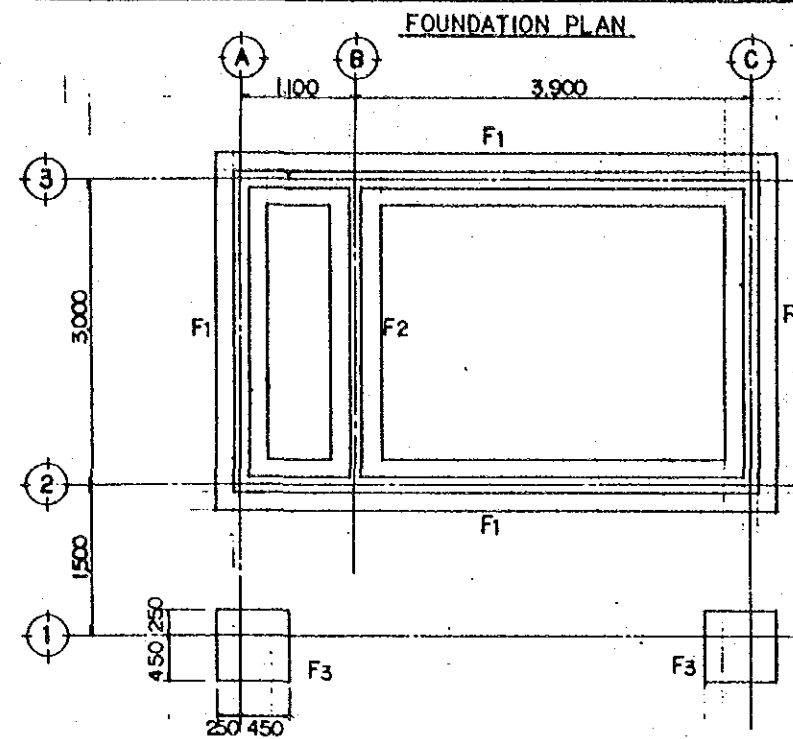


STORAGE ROOM

THE GOVERNMENT OF FIJI THE IMPROVEMENT OF RICE CULTIVATION TECHNOLOGY PROJECT	
TITLE OF DRAWING NAVUA PROJECT	
STORAGE HOUSE (2)	
JAPAN INTERNATIONAL COOPERATION AGENCY TOKYO JAPAN	DWG. NO 13



THE GOVERNMENT OF FIJI THE IMPROVEMENT OF RICE CULTIVATION TECHNOLOGY PROJECT	
TITLE OF DRAWING NAVUA PROJECT	
STORAGE HOUSE (3)	
JAPAN INTERNATIONAL COOPERATION AGENCY TOKYO JAPAN	DWG. NO 14



THE GOVERNMENT OF FIJI
 THE IMPROVEMENT OF RICE CULTIVATION
 TECHNOLOGY PROJECT

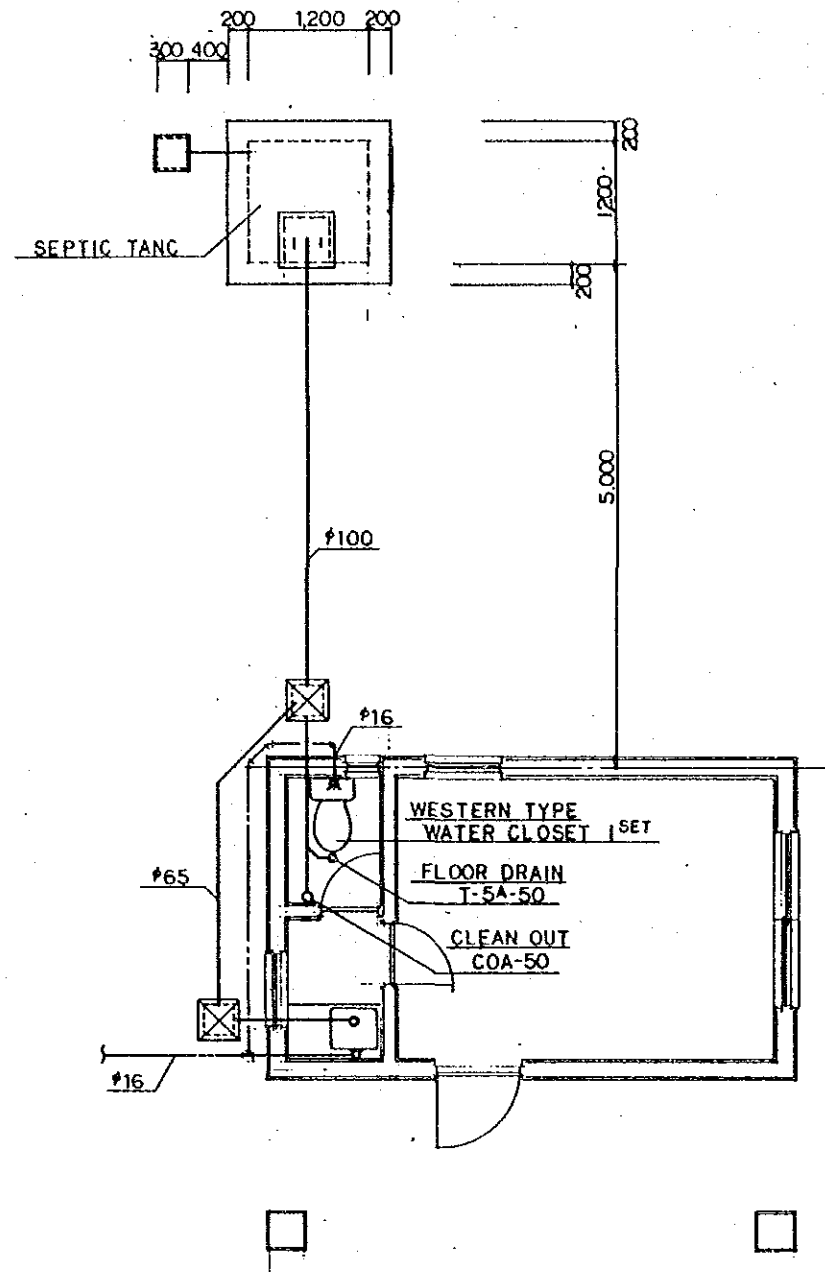
TITLE OF DRAWING NAVUA PROJECT

STORAGE HOUSE (4)

JAPAN INTERNATIONAL COOPERATION AGENCY
 TOKYO JAPAN

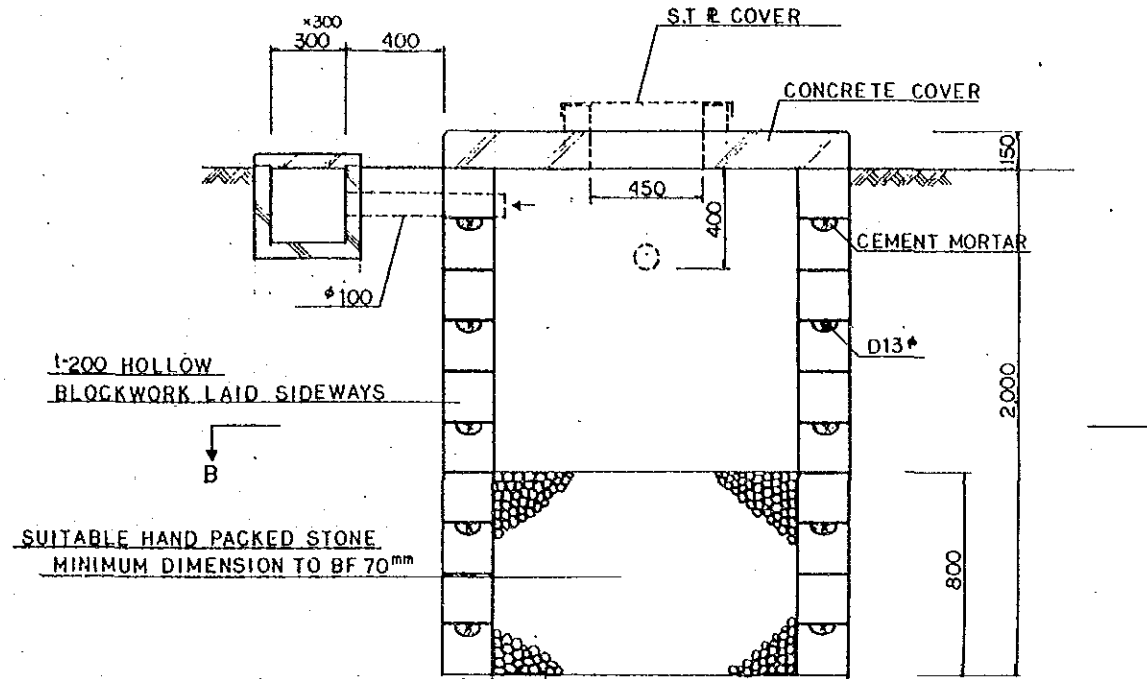
DWG. NO
 15

WATER SUPPLY AND DRAINAGE SYSTEM

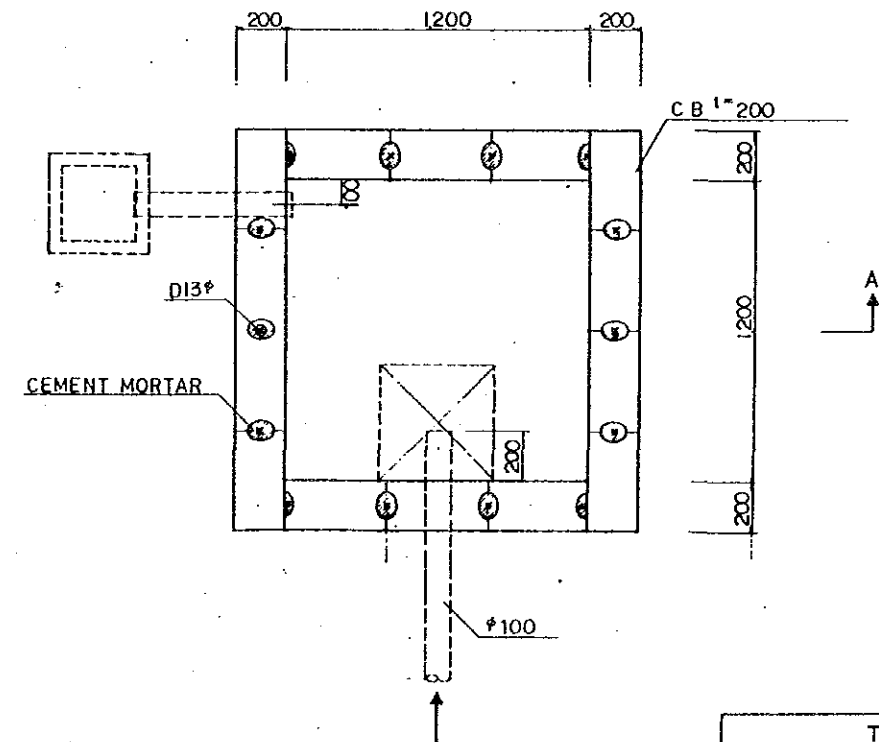


SEPTIC TANK DETAIL

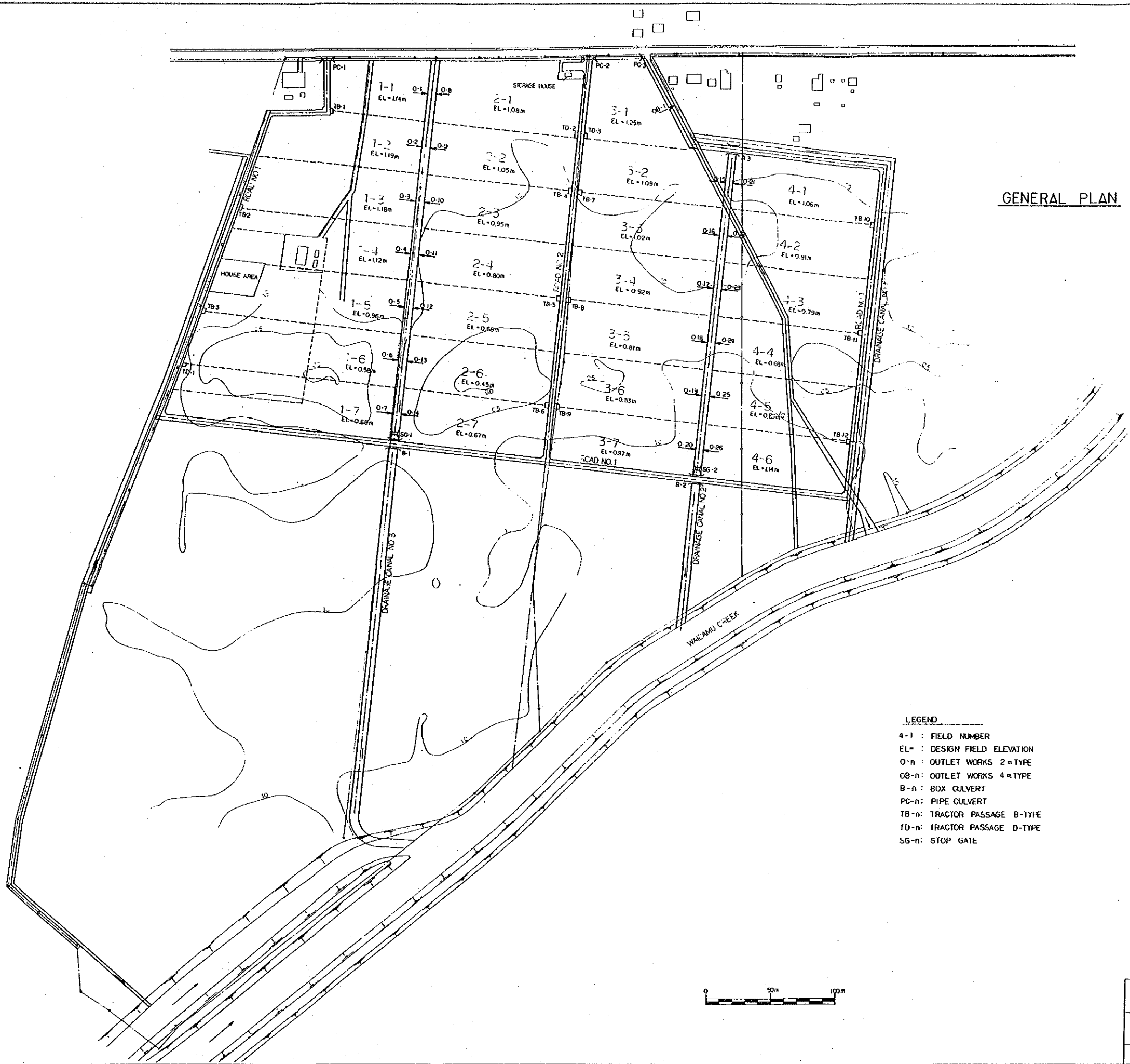
A - A SECTION



B - B SECTION



THE GOVERNMENT OF FIJI THE IMPROVEMENT OF RICE CULTIVATION TECHNOLOGY PROJECT	
TITLE OF DRAWING NAVUA PROJECT STORAGE HOUSE (5)	
JAPAN INTERNATIONAL COOPERATION AGENCY TOKYO JAPAN	DWG. NO 16

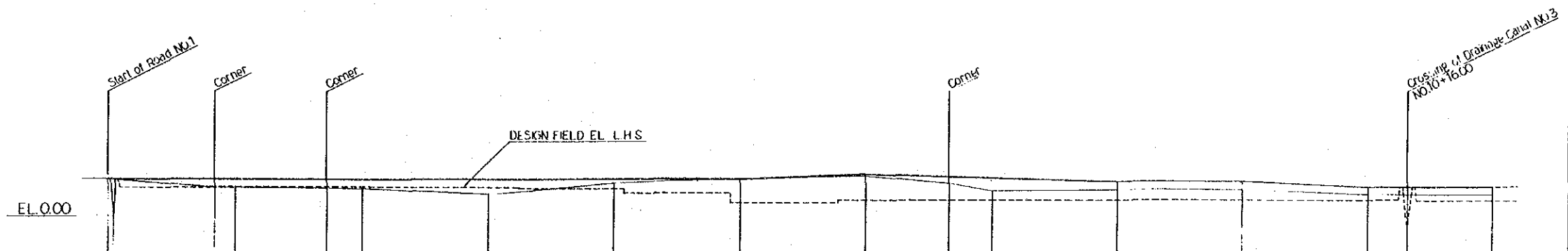


GENERAL PLAN

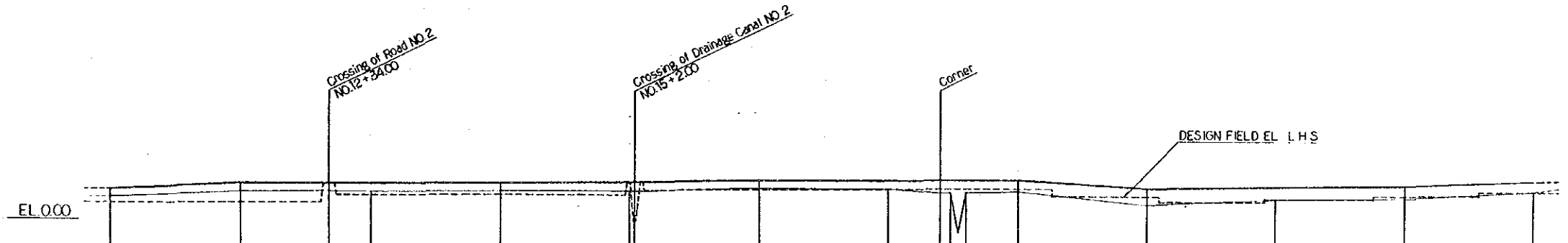
- LEGEND**
- 4-1 : FIELD NUMBER
 - EL= : DESIGN FIELD ELEVATION
 - O-n : OUTLET WORKS 2m TYPE
 - OB-n : OUTLET WORKS 4m TYPE
 - B-n : BOX CULVERT
 - PC-n : PIPE CULVERT
 - TB-n : TRACTOR PASSAGE B-TYPE
 - TD-n : TRACTOR PASSAGE D-TYPE
 - SG-n : STOP GATE



THE GOVERNMENT OF FIJI	
THE IMPROVEMENT OF RICE CULTIVATION TECHNOLOGY PROJECT	
TITLE OF DRAWING MAUSORI PROJECT	
GENERAL PLAN	
JAPAN INTERNATIONAL COOPERATION AGENCY	DWG. No. 17
TOKYO JAPAN	

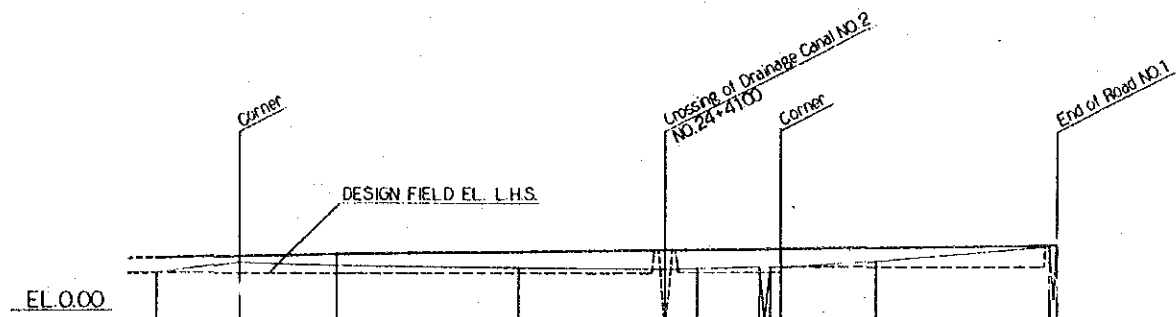


STATION	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0
RUNNING DISTANCE	0.00	42.00	50.00	86.00	150.00	250.00	300.00	330.00	360.00	400.00	450.00	550.00
FIELD ELEVATION	1.48	1.16	1.16	1.15	0.89	1.33	1.63	1.34	1.06	1.09	0.91	0.88
DESIGN FIELD EL. L.H.S.		1.19	1.19	1.19	1.19	1.12	0.69	0.69	0.69	0.69	0.69	0.67
DESIGN ROAD LEVEL	1.48	1.48	1.48	1.48	1.48	1.48	1.70	1.60	1.55	1.40	1.40	1.20
DESIGN FIELD EL. R.H.S.												
SLOPE	LEVEL L=25000m				i=0.0044 L=25000m		i=0.003 L=10000m		LEVEL L=5000m		i=0.004 L=5000m	

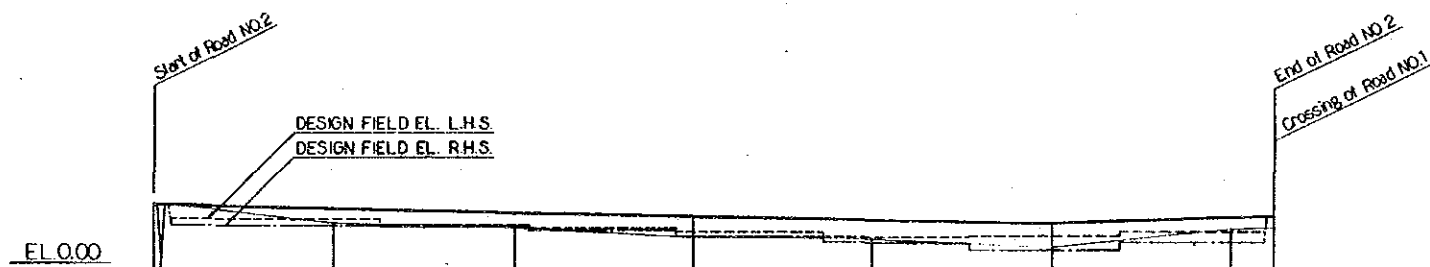


STATION	11.0	12.0	13.0	14.0	15.0	16.0	17.0	18.0	19.0	20.0	21.0	22.0
RUNNING DISTANCE	550.00	600.00	634.00	650.00	700.00	800.00	850.00	870.00	900.00	950.00	1000.00	1100.00
FIELD ELEVATION	0.89	1.07	1.09	1.09	1.11	1.20	1.18	1.09	0.57	0.76	0.84	1.03
DESIGN FIELD EL. L.H.S.	0.67	0.67	0.67	0.97	0.97	1.14	1.14	1.14	0.89	0.79	0.91	1.06
DESIGN ROAD LEVEL	1.20	1.40	1.40	1.40	1.40	1.50	1.50	1.50	1.20	1.25	1.50	1.45
DESIGN FIELD EL. R.H.S.												
SLOPE	i=0.004 L=5000m		LEVEL L=10000m		i=0.001 L=10000m		LEVEL L=10000m		i=0.006 L=5000m		i=0.001 L=10000m	

THE GOVERNMENT OF FIJI
 THE IMPROVMENT OF RICE CULTIVATION
 TECHNOLOGY PROJECT
 TITLE OF DRAWING NAUSORI PROJECT
 ROAD No.1
 LONGITUDINAL SECTION
 JAPAN INTERNATIONAL COOPERATION AGENCY
 TOKYO JAPAN

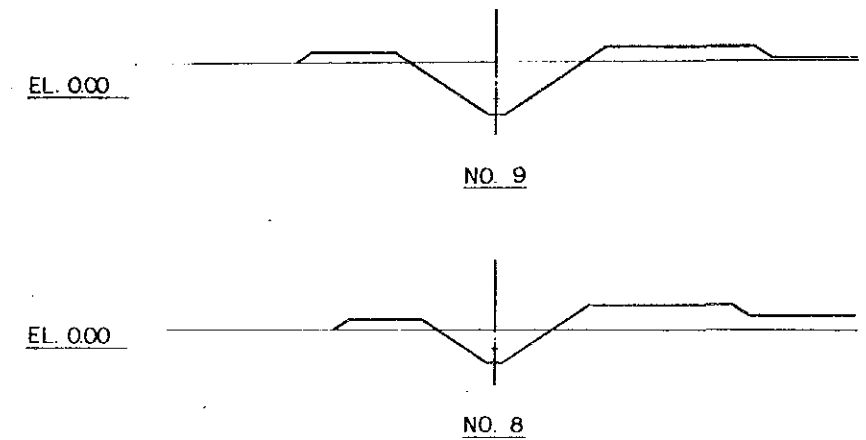
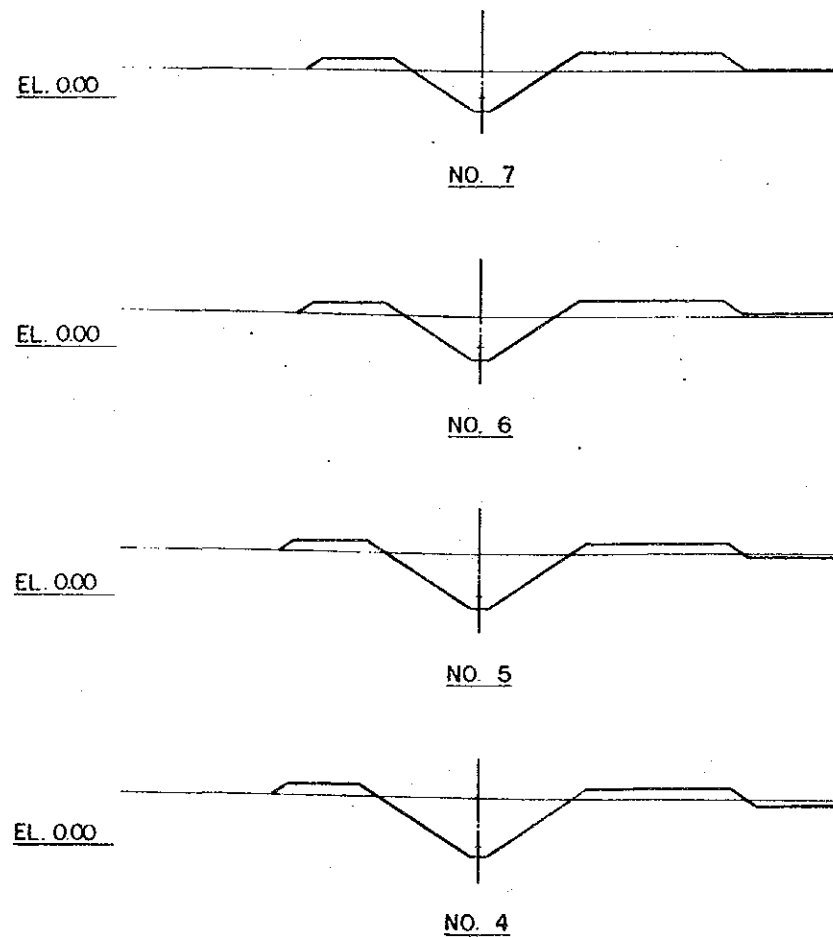
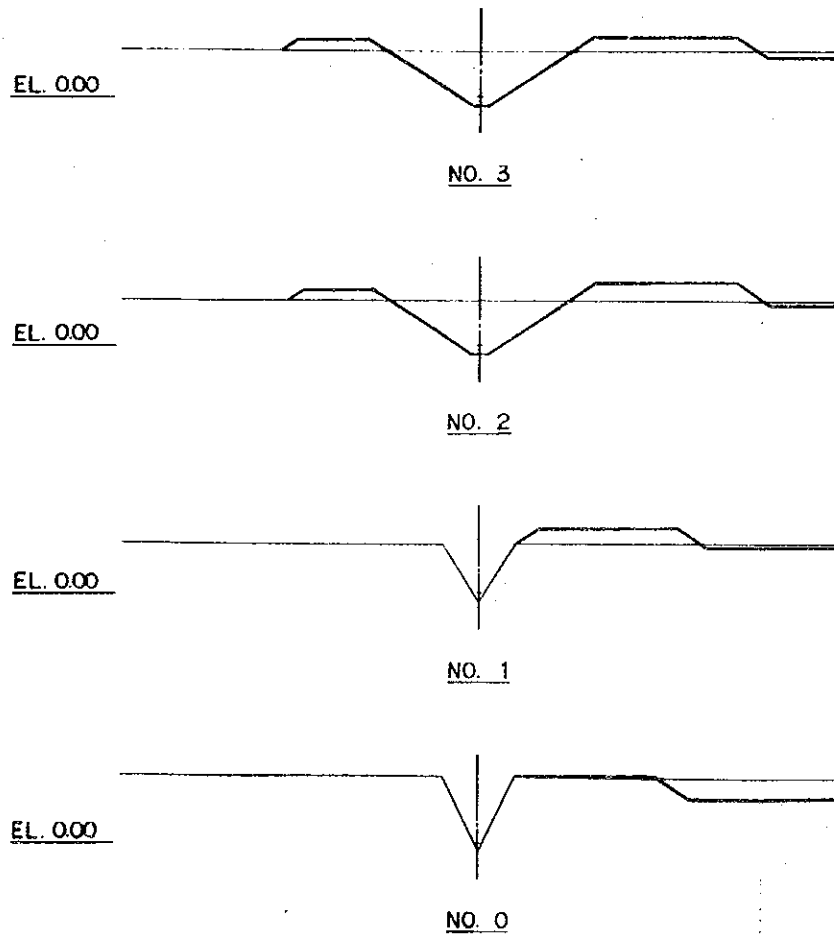
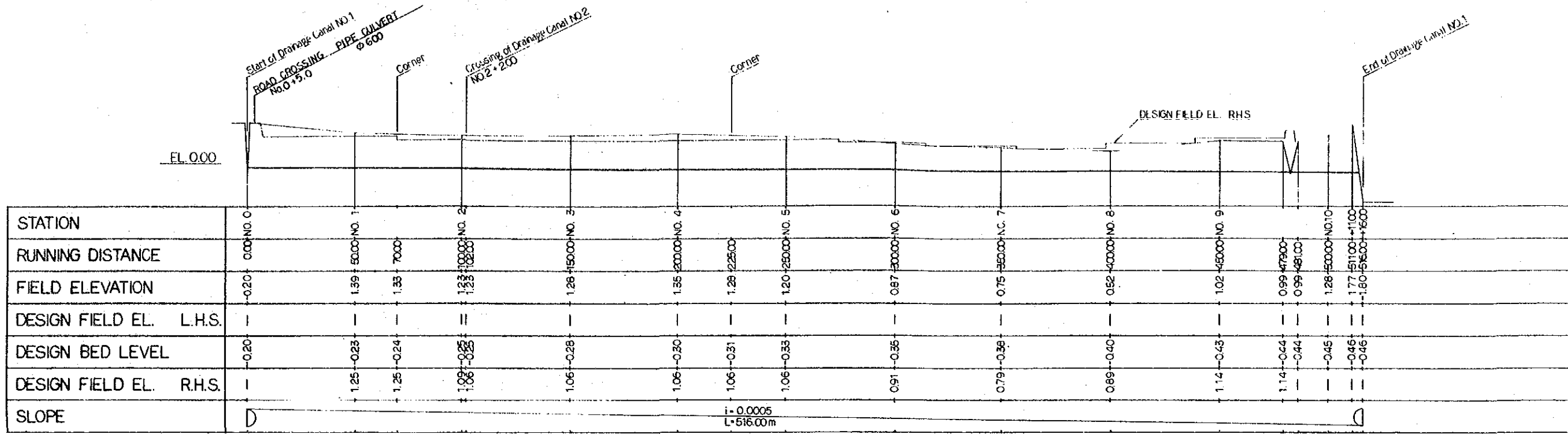


STATION	NO.22	NO.23	NO.24	NO.25	NO.26	NO.27
RUNNING DISTANCE	1000	1200	1400	1600	1800	2000
FIELD ELEVATION	1.03	1.26	1.20	1.17	1.20	1.83
DESIGN FIELD EL. L.H.S.	1.06	1.06	1.06	1.06	1.06	1.25
DESIGN ROAD LEVEL	1.45	1.52	1.60	1.67	1.72	1.86
DESIGN FIELD EL. R.H.S.						
SLOPE	i=0.003 L=1000m		i=0.0013 L=2000m		1.25	

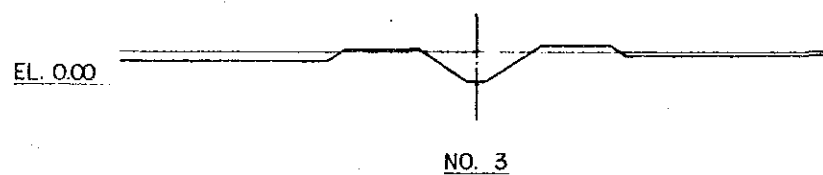
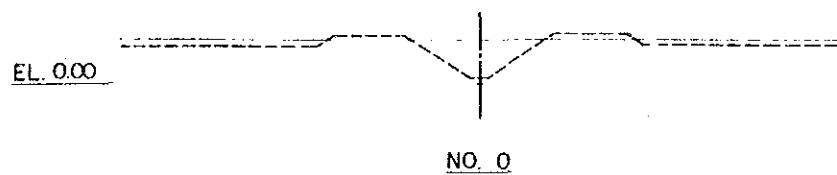
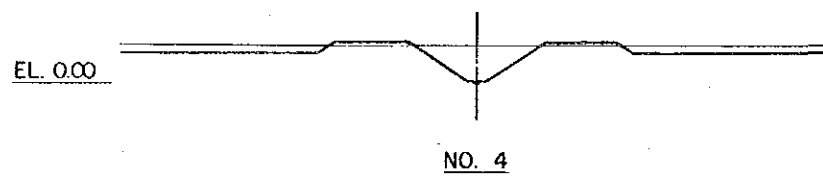
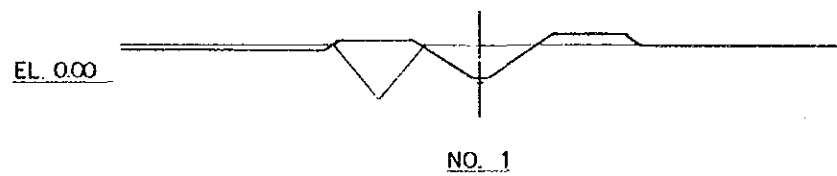
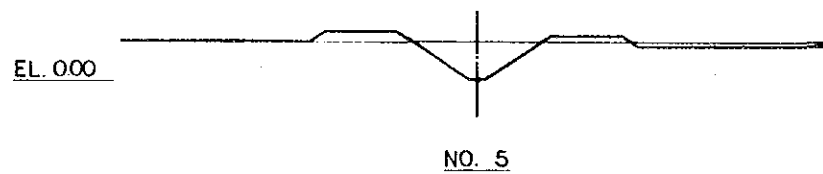
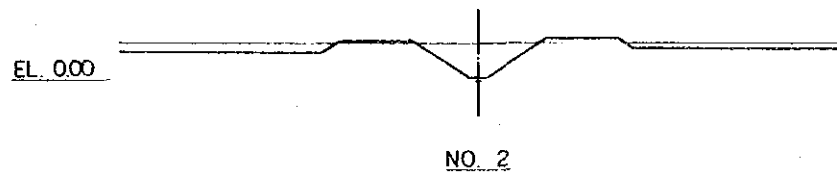
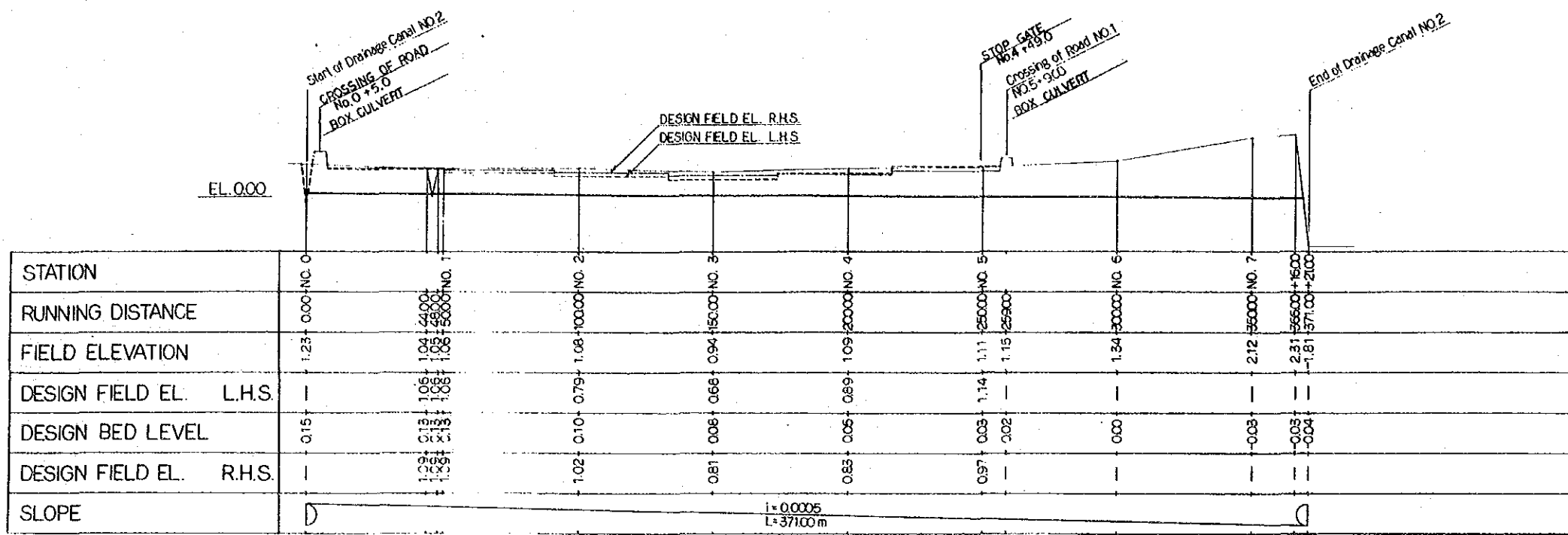


STATION	NO. 0	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
RUNNING DISTANCE	0	500	1000	1500	2000	2500	3000
FIELD ELEVATION	1.63	1.15	1.05	0.75	0.72	0.51	1.03
DESIGN FIELD EL. L.H.S.		1.25	1.09	0.92	0.81	0.83	0.97
DESIGN ROAD LEVEL	1.63	1.54	1.44	1.36	1.28	1.20	1.36
DESIGN FIELD EL. R.H.S.		1.06	1.05	0.80	0.66	0.45	0.67
SLOPE	1.63	i=0.0019 L=1500m		i=0.0015 L=1000m		i=0.0029 L=1000m	

THE GOVERNMENT OF FIJI
 THE IMPROVEMENT OF RICE CULTIVATION
 TECHNOLOGY PROJECT
 TITLE OF DRAWING NAUSORI PROJECT
 ROAD No.1 AND ROAD No.2
 LONGITUDINAL SECTION
 JAPAN INTERNATIONAL COOPERATION AGENCY
 TOKYO JAPAN

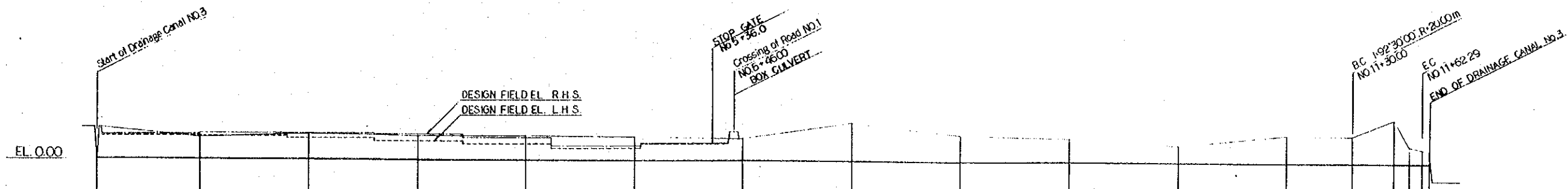


THE GOVERNMENT OF FIJI
 THE IMPROVEMENT OF RICE CULTIVATION
 TECHNOLOGY PROJECT
 TITLE OF DRAWING NAUSORI PROJECT
 DRAINAGE CANAL No.1
 LONGITUDINAL AND CROSS SECTION
 JAPAN INTERNATIONAL COOPERATION AGENCY
 TOKYO JAPAN



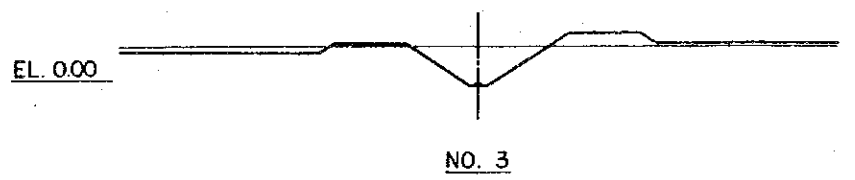
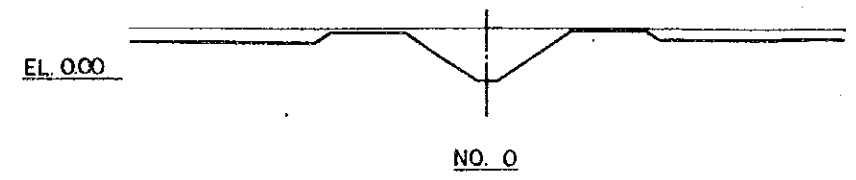
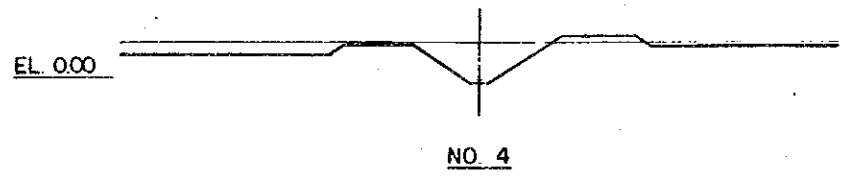
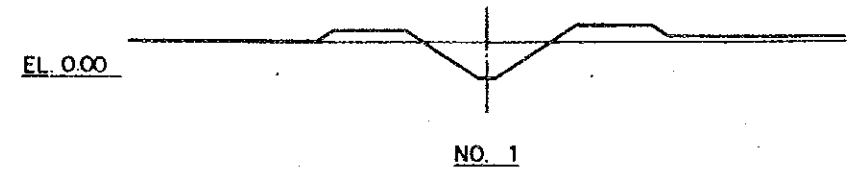
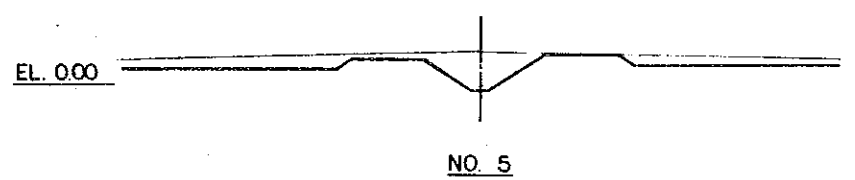
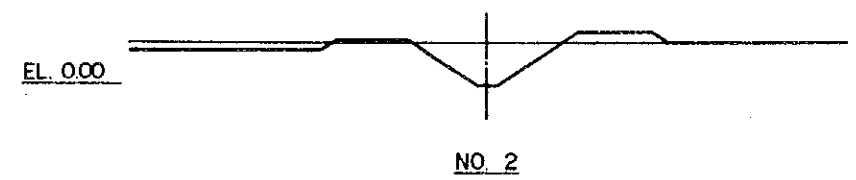
THE GOVERNMENT OF FIJI
 THE IMPROVEMENT OF RICE CULTIVATION
 TECHNOLOGY PROJECT
 TITLE OF DRAWING NAUSORI PROJECT
 DRAINAGE CANAL No.2
 LONGITUDINAL AND CROSS SECTION
 JAPAN INTERNATIONAL COOPERATION AGENCY
 TOKYO JAPAN

DWG. No.
21

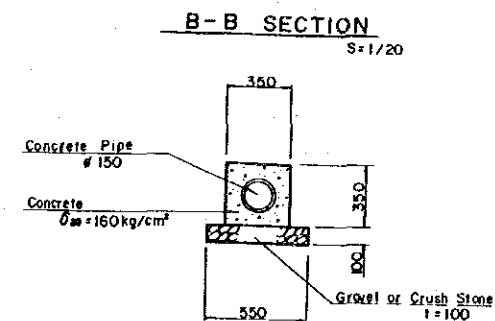
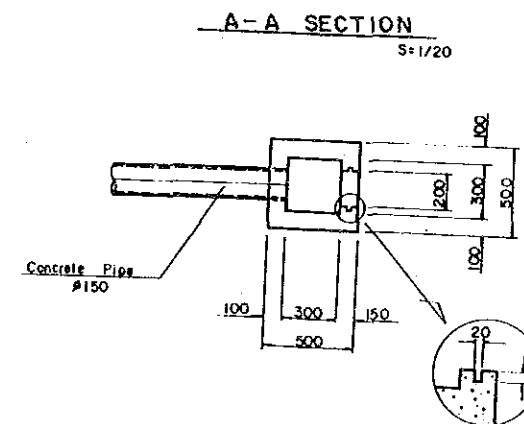
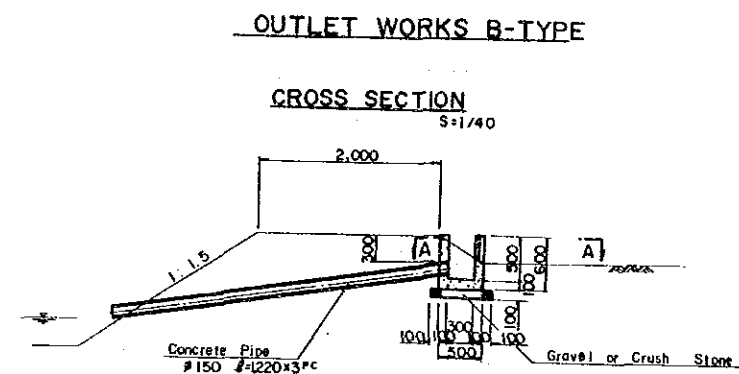
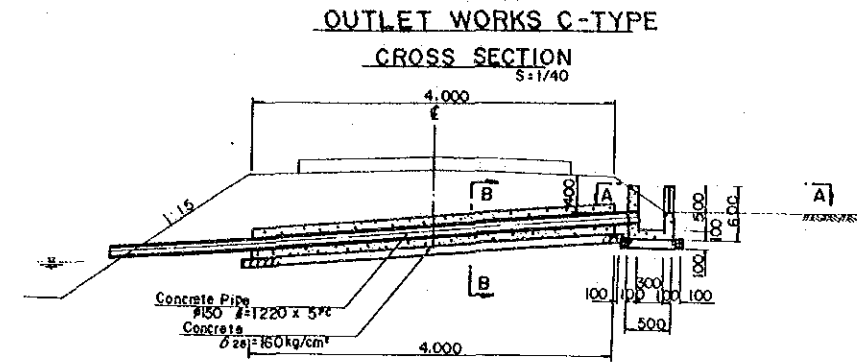
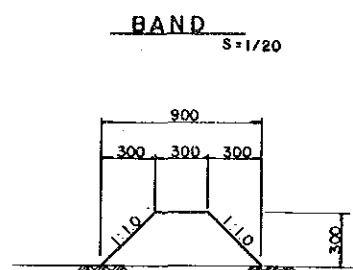
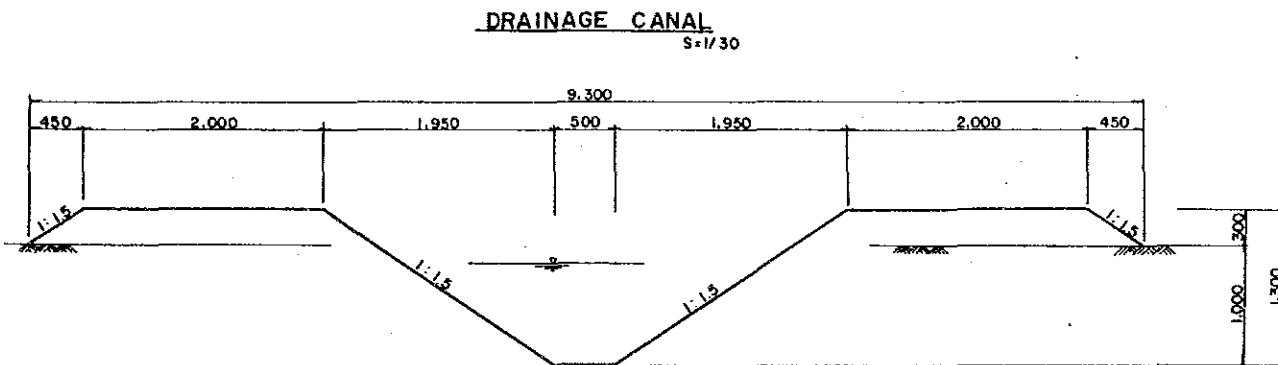
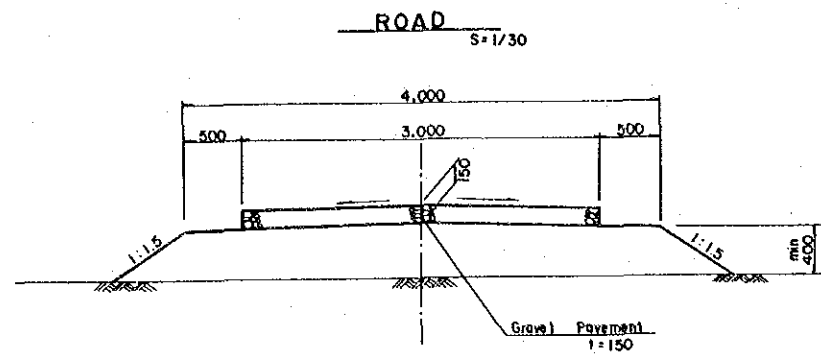


STATION	0	1	2	3	4	5	6	7	8	9	10	11	11+30.00	11+49.55	11+55.55	11+62.29
RUNNING DISTANCE	0.00	48.00	96.00	144.00	192.00	240.00	288.00	336.00	384.00	432.00	480.00	528.00	576.00	624.00	672.00	720.00
FIELD ELEVATION	0.00	1.00	1.15	1.03	1.05	0.96	0.89	1.50	1.02	0.89	0.54	1.01	0.99	1.72	0.50	0.35
DESIGN FIELD EL. L.H.S.	—	1.08	0.95	0.80	0.66	0.45	0.67	—	—	—	—	—	—	—	—	—
DESIGN BED LEVEL	0.00	-0.02	-0.05	-0.07	-0.10	-0.12	-0.15	-0.17	-0.20	-0.22	-0.25	-0.27	-0.29	-0.30	-0.30	-0.31
DESIGN FIELD EL. R.H.S.	1.14	1.18	1.12	0.96	0.58	0.69	—	—	—	—	—	—	—	—	—	—
SLOPE	D															

i=0.0005
L=645.29m



THE GOVERNMENT OF FIJI
 THE IMPROVEMENT OF RICE CULTIVATION
 TECHNOLOGY PROJECT
 TITLE OF DRAWING NAUSORI PROJECT
 DRAINAGE CANAL No.3
 LONGITUDINAL AND CROSS SECTION
 JAPAN INTERNATIONAL COOPERATION AGENCY
 TOKYO JAPAN



THE GOVERNMENT OF FIJI
THE IMPROVEMENT OF RICE CULTIVATION
TECHNOLOGY PROJECT

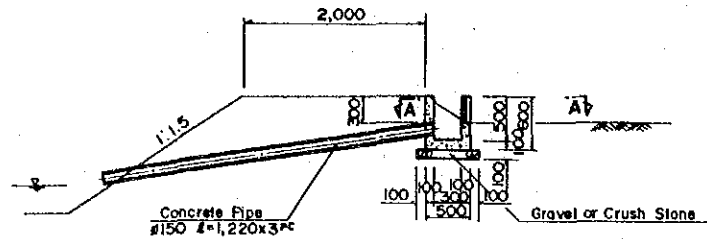
TITLE OF DRAWING NAUSORI PROJECT
TYPICAL SECTIONS OF ROAD, DRAINAGE
CANAL AND OUTLET WORKS

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

DWG NO
23

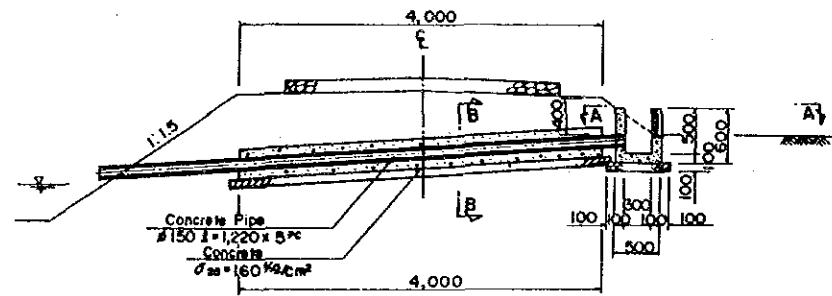
OUTLET WORKS B-TYPE
S=1/740

CROSS SECTION

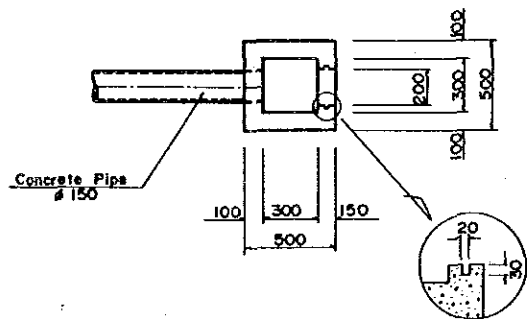


OUTLET WORKS C-TYPE
S=1/740

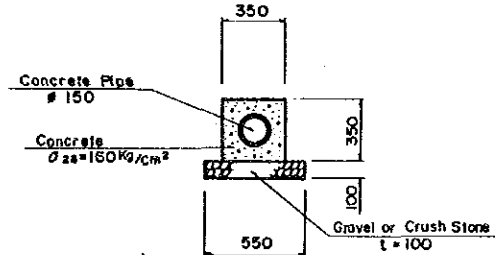
CROSS SECTION



A-A SECTION
S=1/20

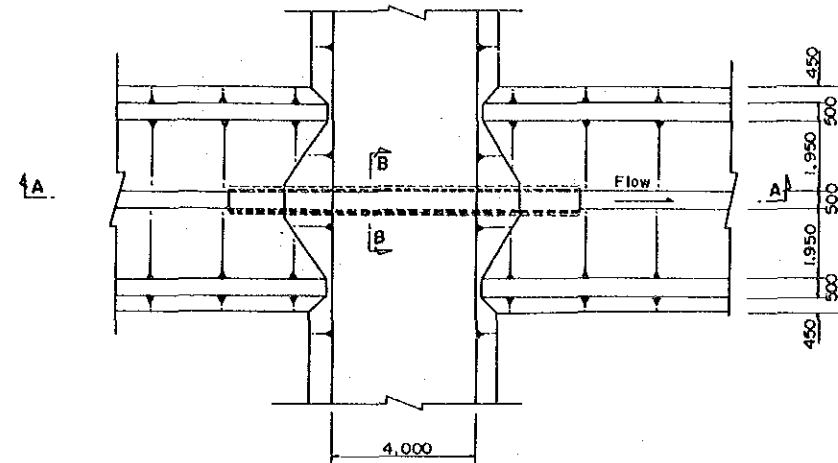


B-B SECTION
S=1/20

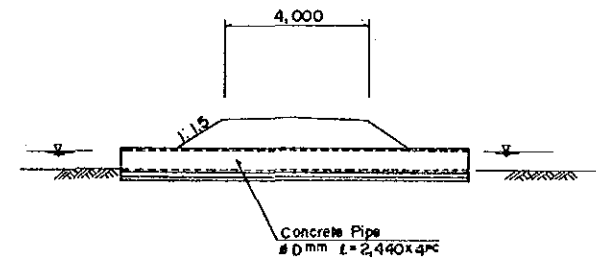


PIPE CULVERT
S=1/100

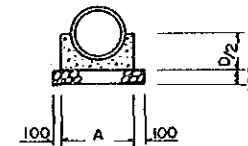
PLAN



A-A SECTION



B-B SECTION

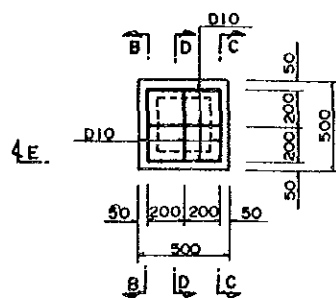


DIMENSION TABLE

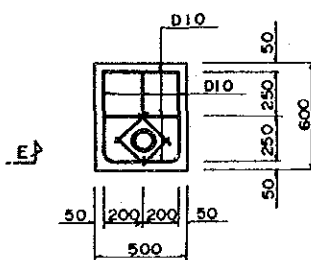
	Pipe Dia	A (mm)
A-TYPE	φ 1,225	1,500
B-TYPE	φ 600	800

REINFORCEMENT ARRANGEMENT
S=1/20

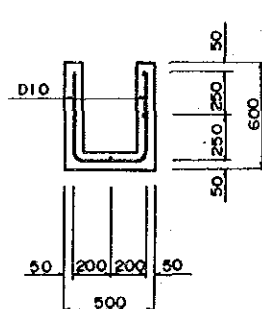
A-A SECTION



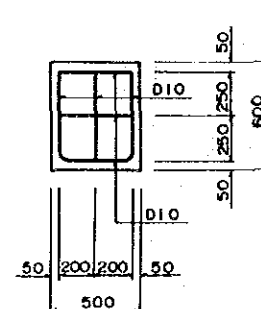
B-B SECTION



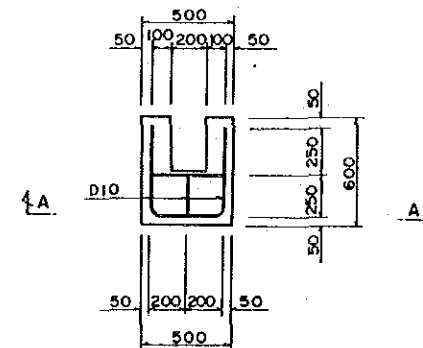
D-D SECTION



E-E SECTION



C-C SECTION



THE GOVERNMENT OF FIJI
THE IMPROVEMENT OF RICE CULTIVATION
TECHNOLOGY PROJECT

TITLE OF DRAWING MAUSORI PROJECT

OUTLET WORKS AND PIPE CULVERT

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

DWG. NO
24

BOX CULVERT

REINFORCEMENT ARRANGEMENT

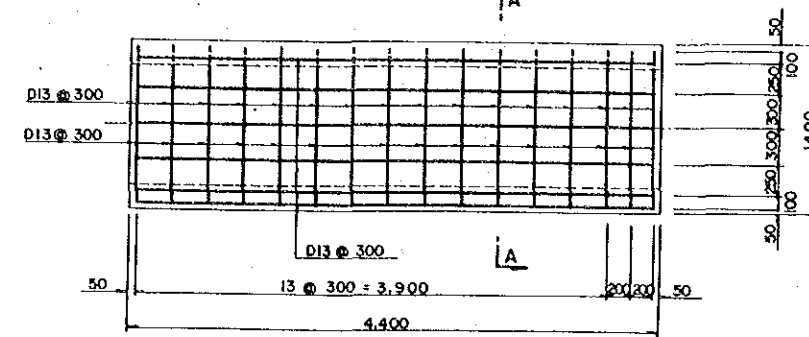
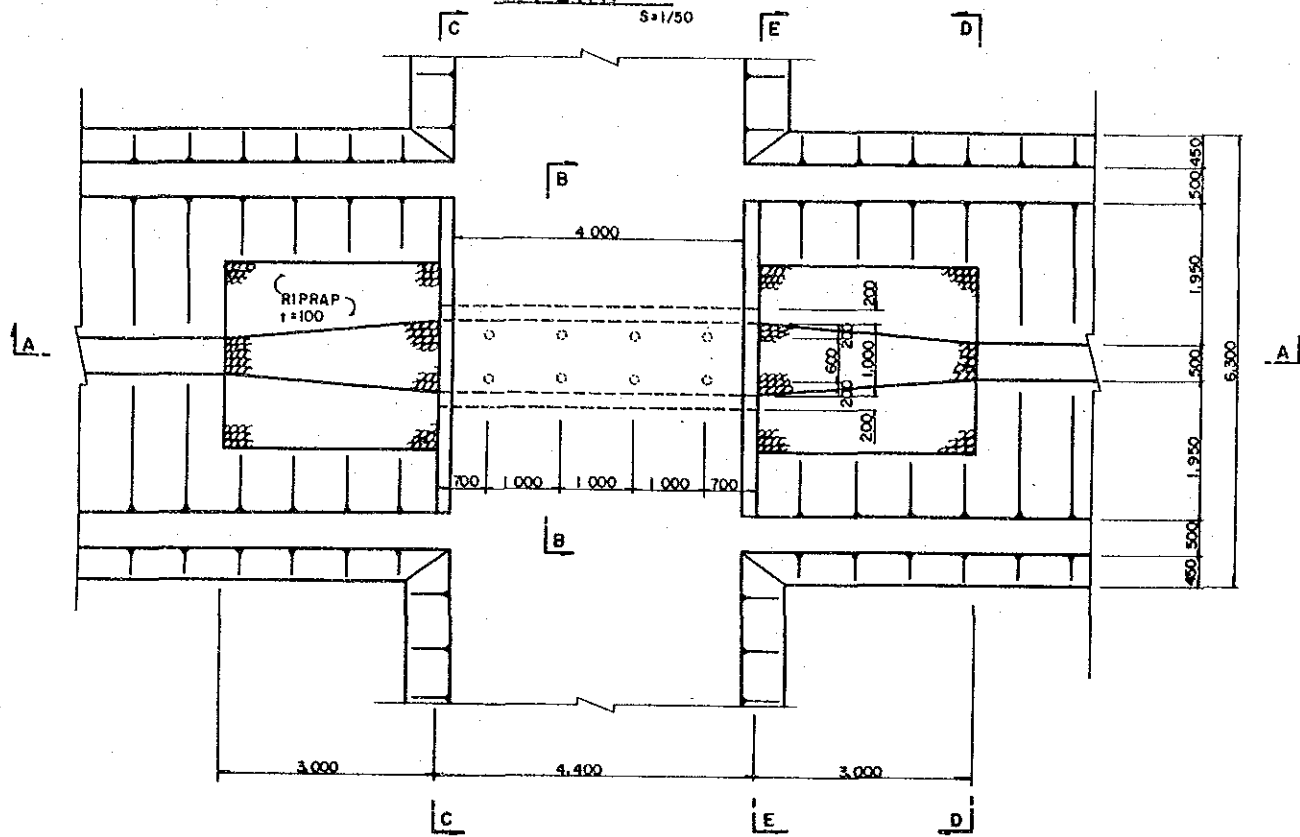
S=1/30

PLAN

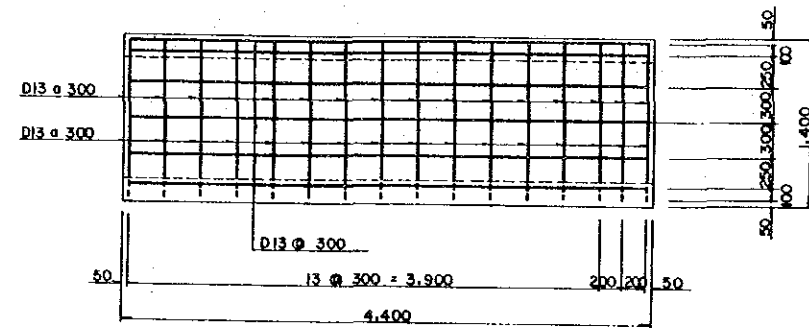
S=1/50

B-B SECTION

A



C-C SECTION



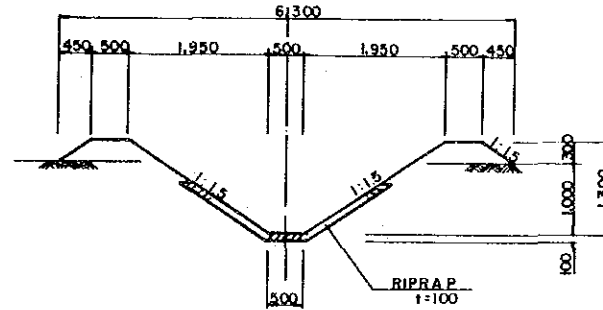
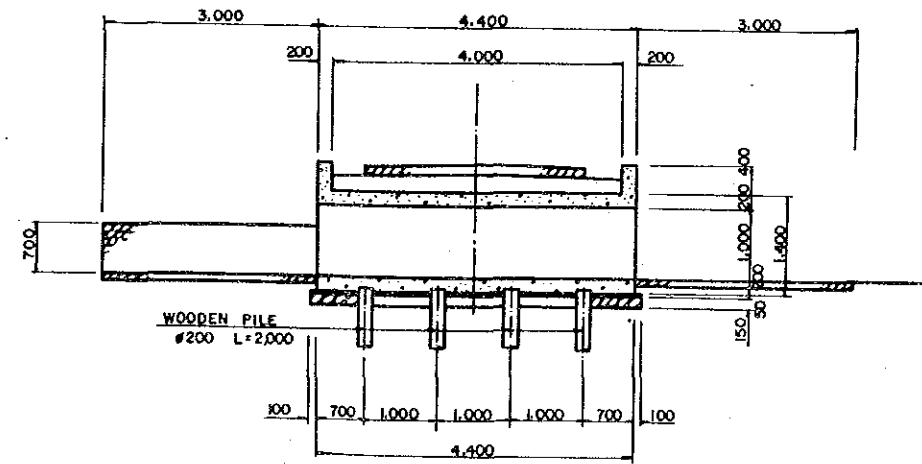
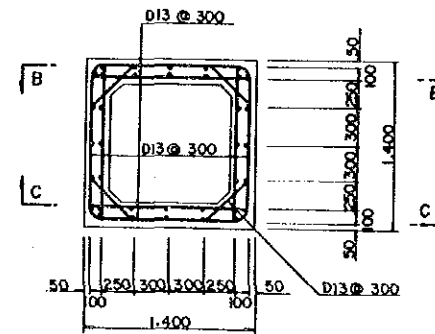
A-A SECTION

S=1/50

D-D SECTION

S=1/50

A-A SECTION



B-B SECTION

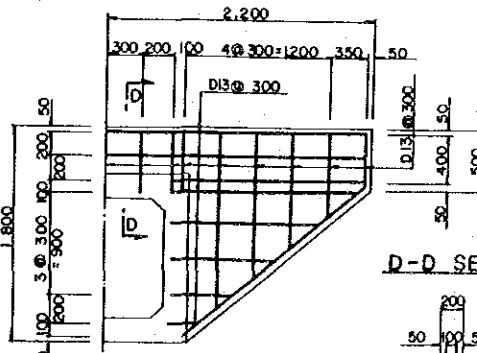
S=1/30

C-C SECTION

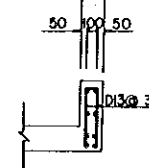
S=1/50

E-E SECTION

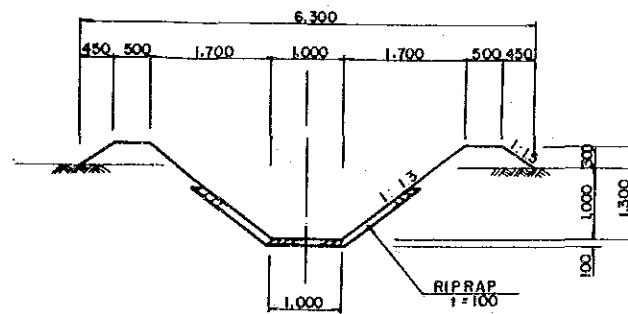
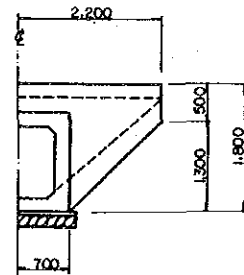
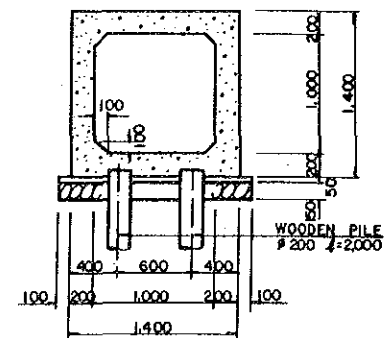
S=1/50



D-D SECTION



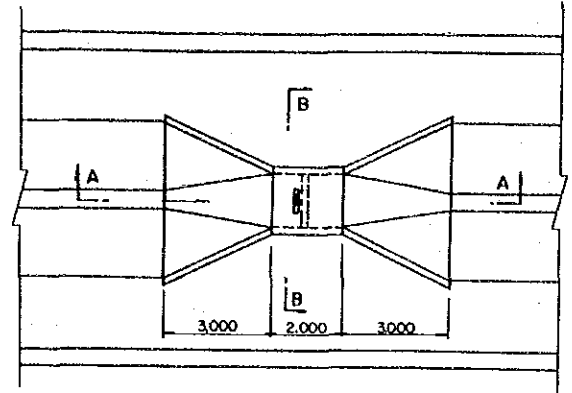
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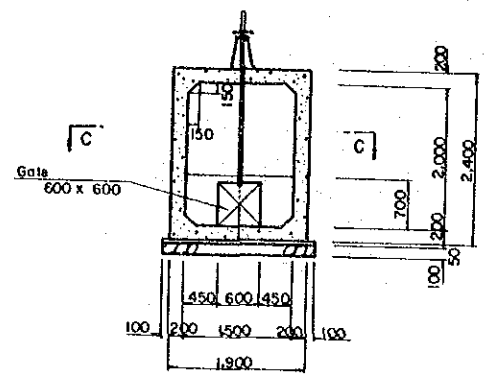
THE GOVERNMENT OF FIJI
 THE IMPROVEMENT OF RICE CULTIVATION
 TECHNOLOGY PROJECT
 TITLE OF DRAWING NAUSORI PROJECT
BOX CULVERT
 JAPAN INTERNATIONAL COOPERATION AGENCY
 TOKYO JAPAN

STOP GATE

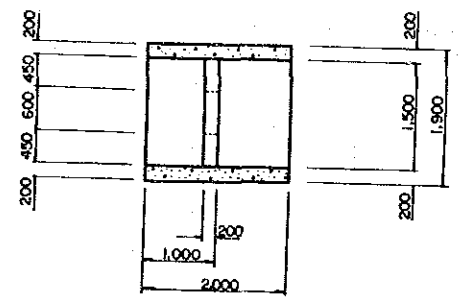
PLAN
S=1/100



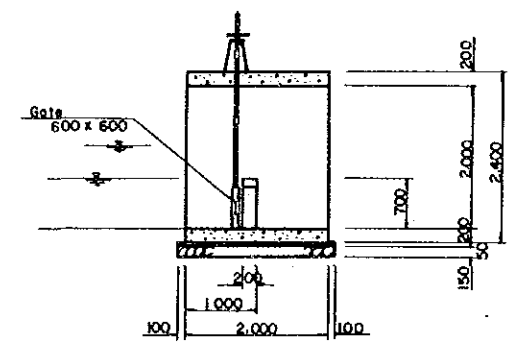
B-B SECTION
S=1/50



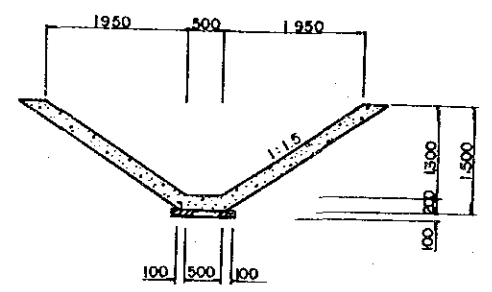
C-C SECTION
S=1/50



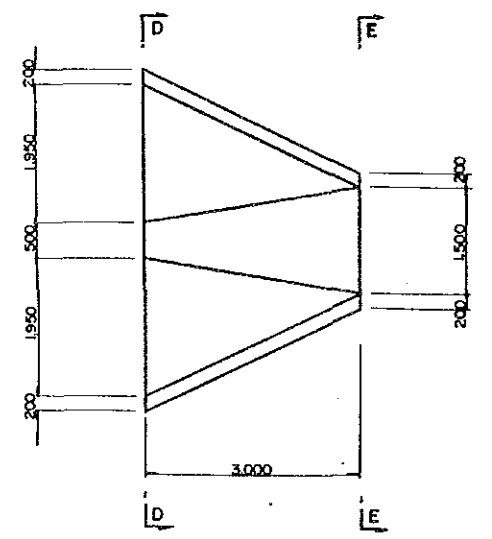
A-A SECTION
S=1/50



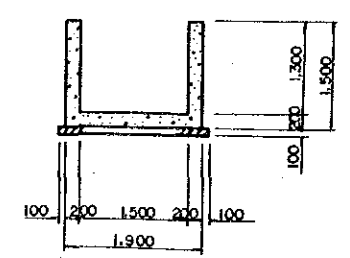
D-D SECTION
S=1/50



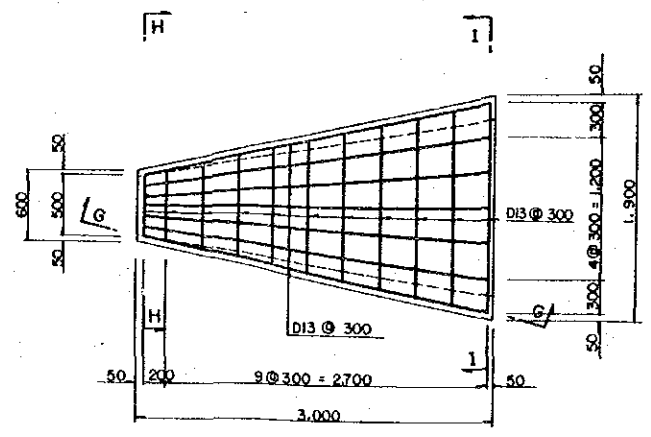
PLAN



E-E SECTION
S=1/50

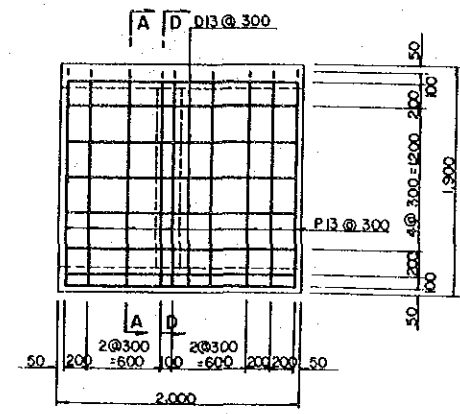


F-F SECTION

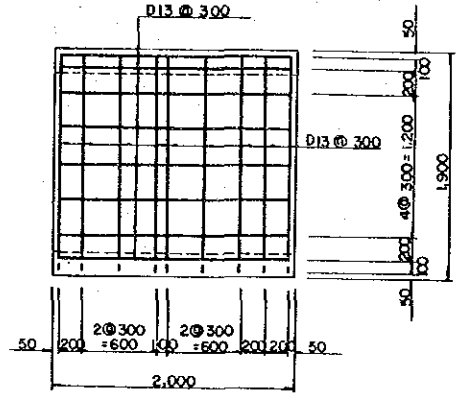


REINFORCEMENT ARRANGEMENT
S=1/30

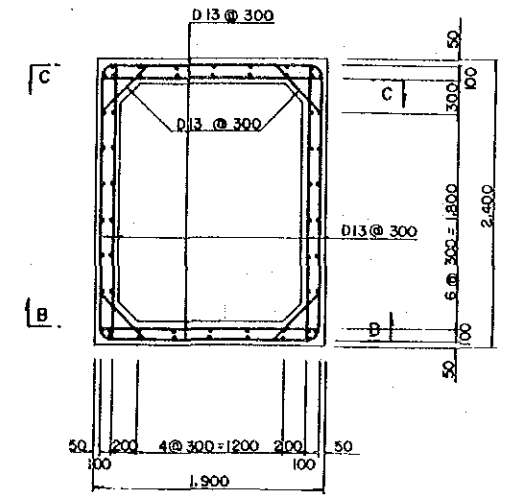
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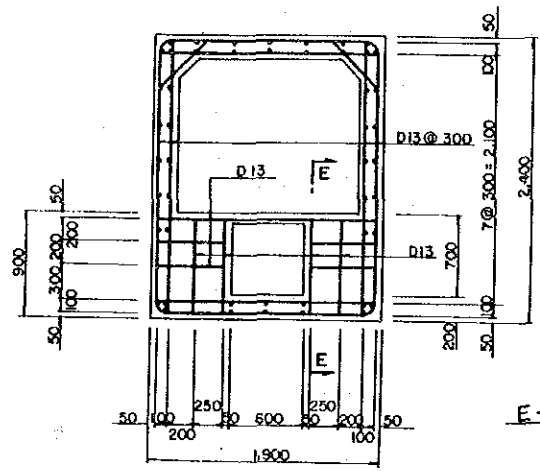
C-C SECTION



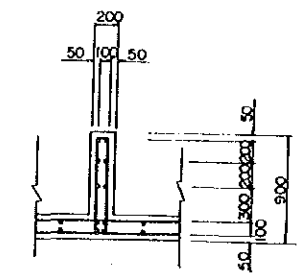
A-A SECTION



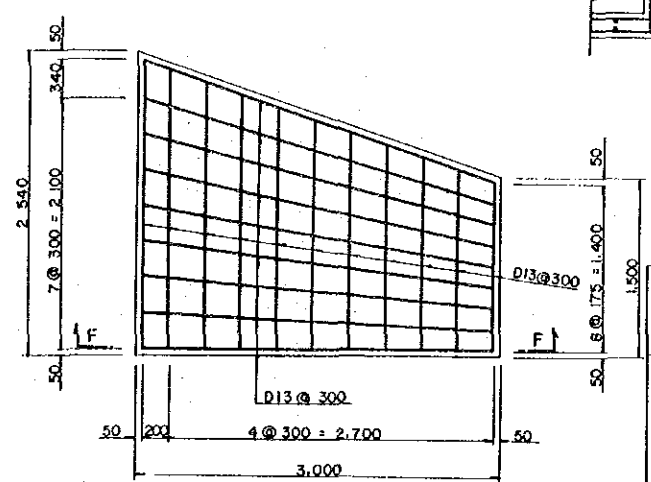
D-D SECTION



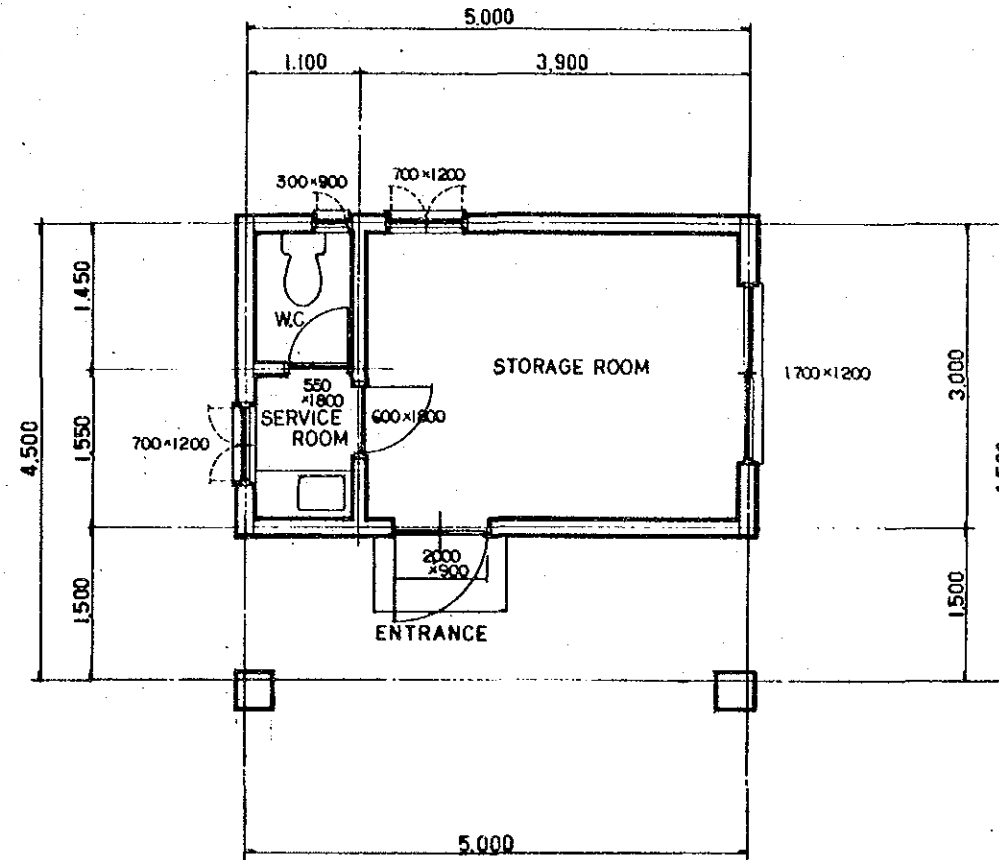
F-F SECTION



G-G SECTION

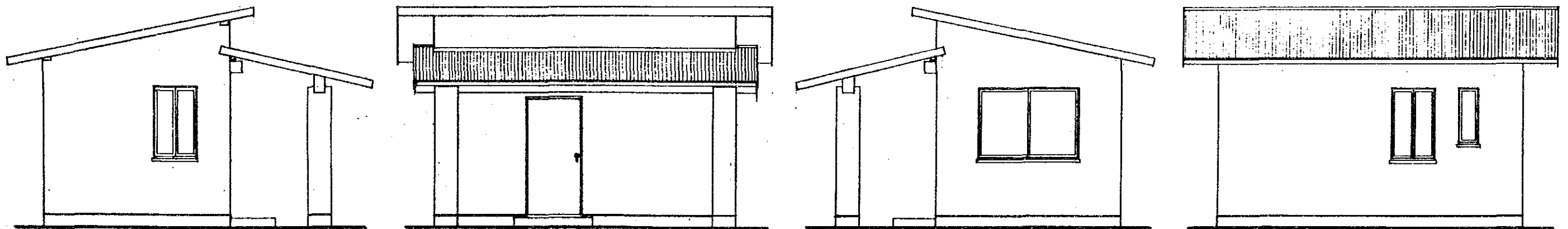


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Storage room Interior finish

Floor	Floor Concrete Finish
Baseboard	Emulsion Paint
Wall	Emulsion paint on pre mixed plaster
Celing	
Remark	

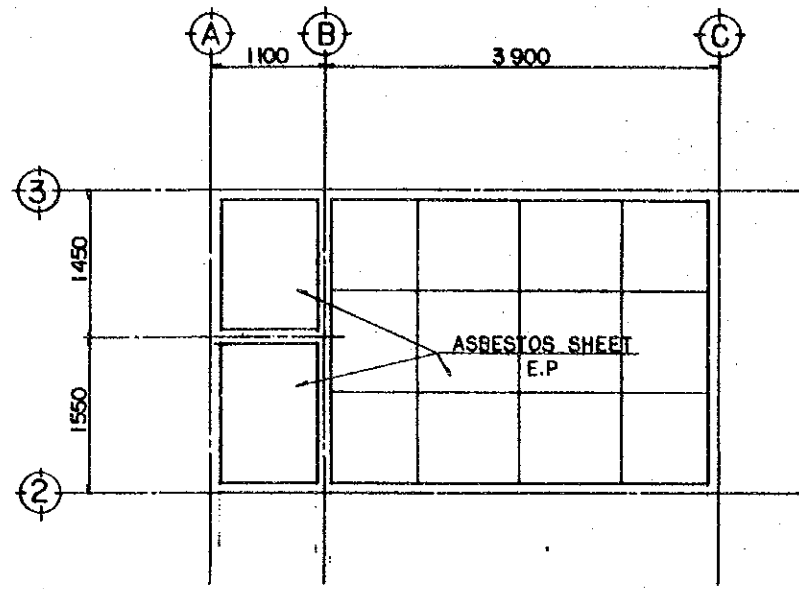


Exterior finish

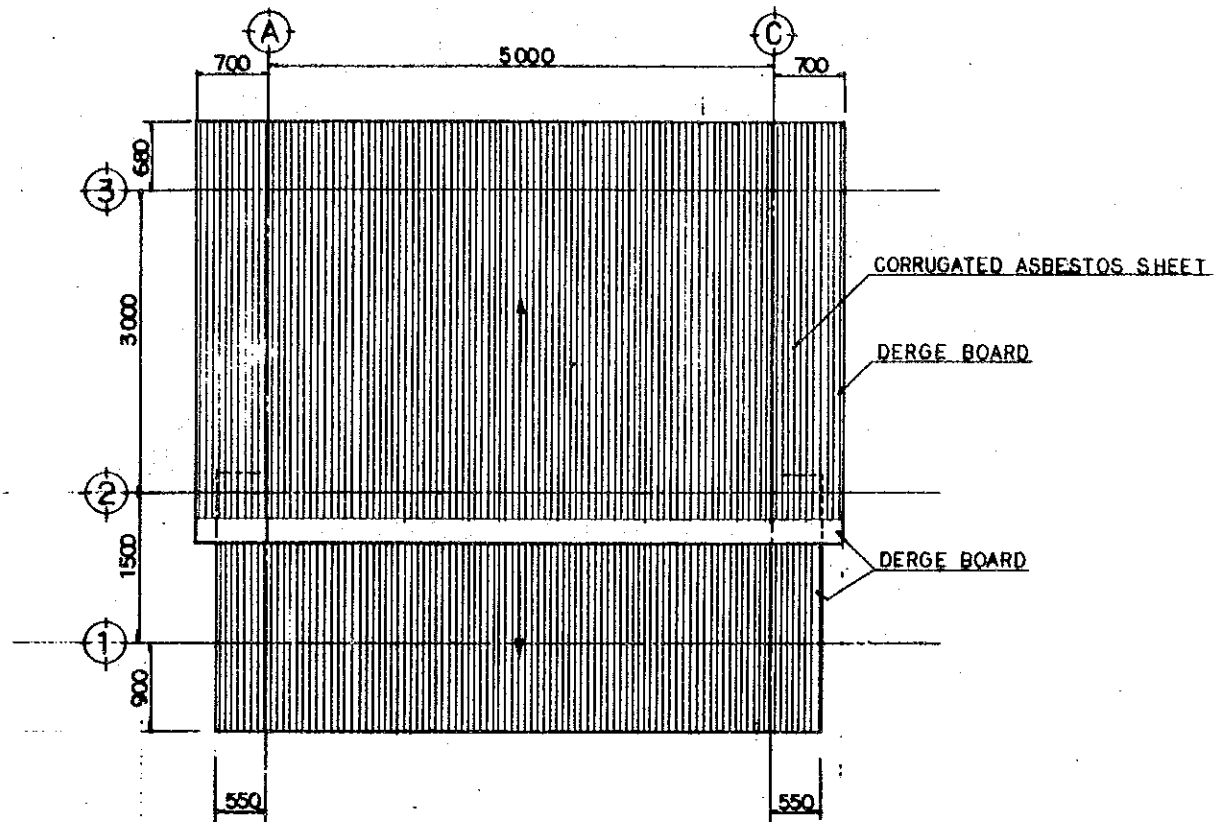
Roof	Corrugated asbestos sheet
Wall	Emulsion paint
Remark	

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STORAGE HOUSE (1)	
JAPAN INTERNATIONAL COOPERATION AGENCY TOKYO JAPAN	DWG. NO 27

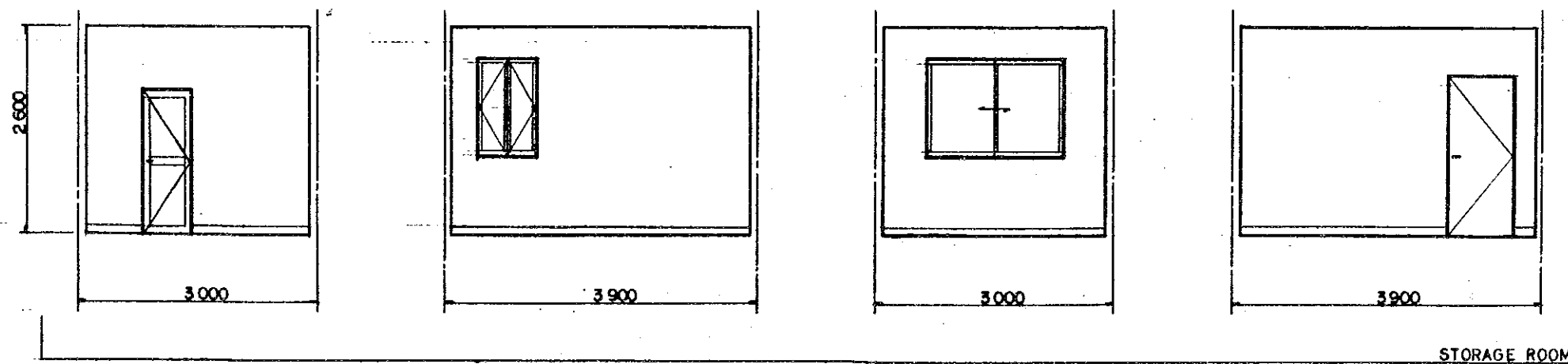
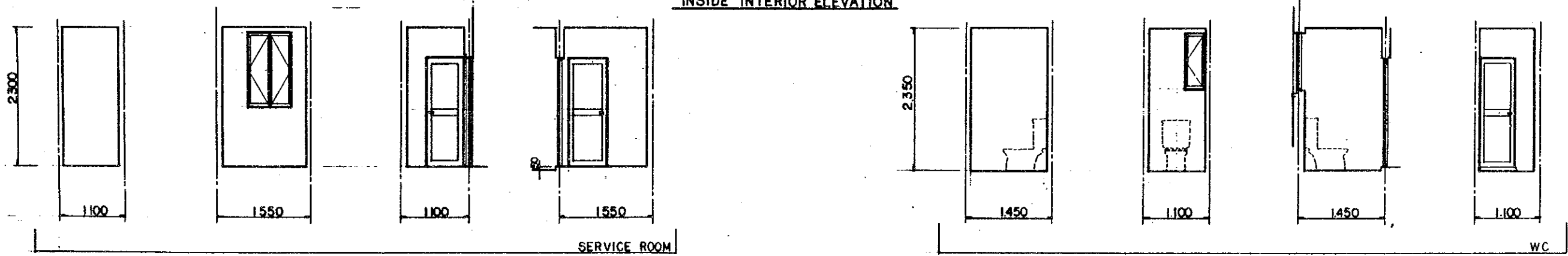
CEILING PLAN



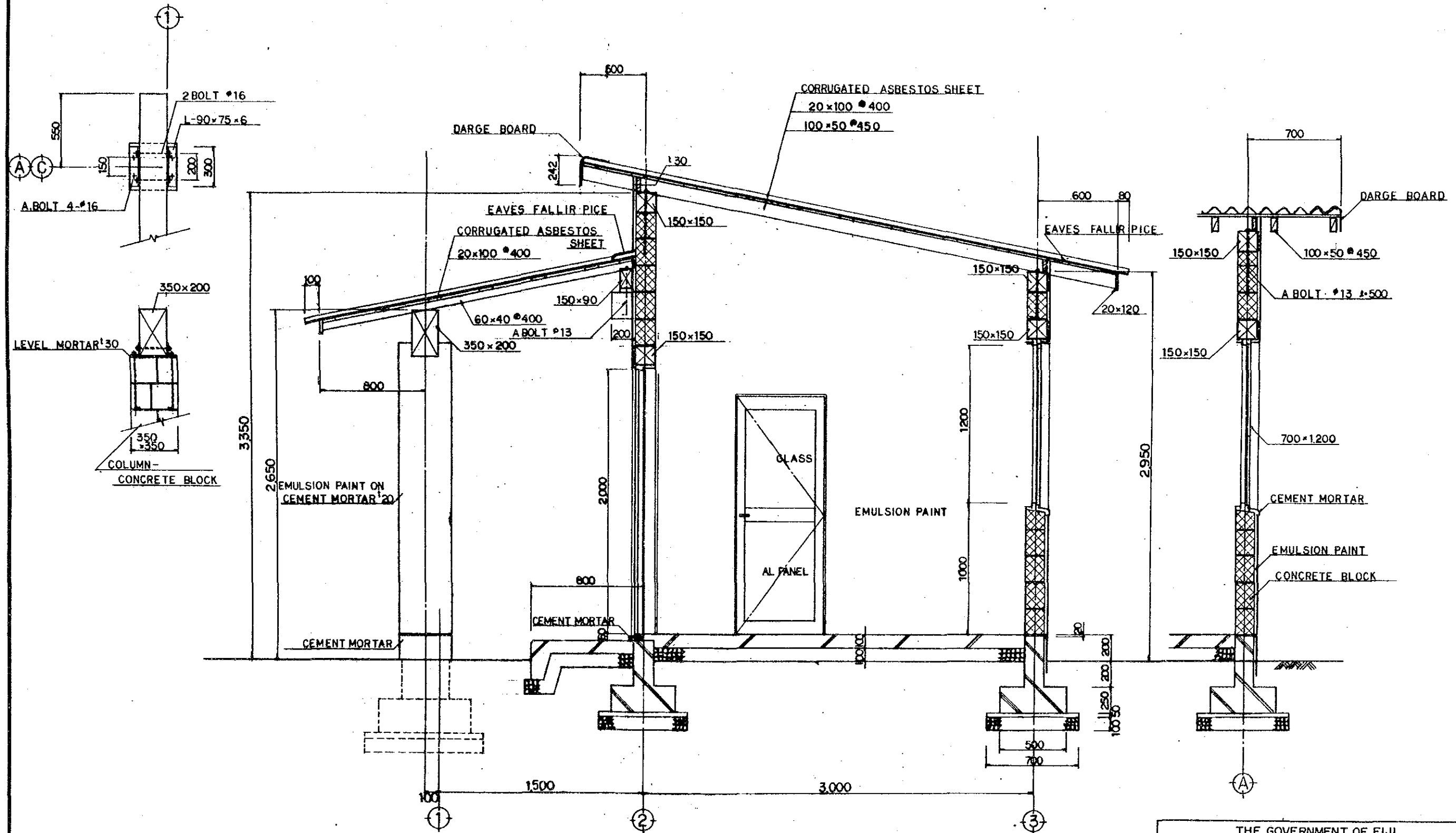
ROOFING PLAN



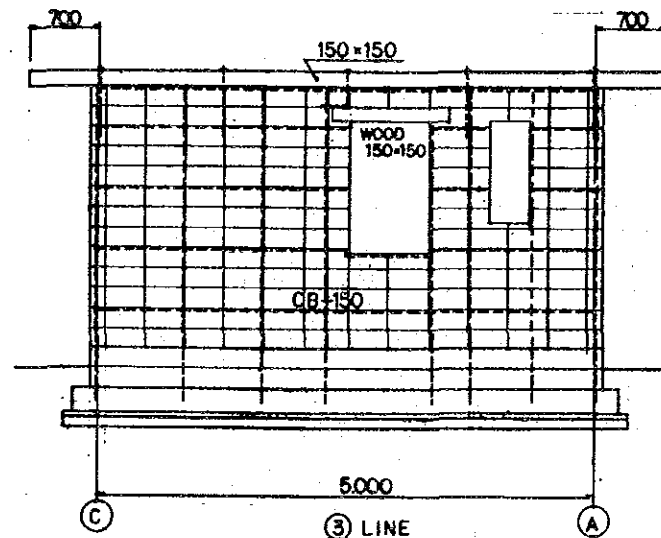
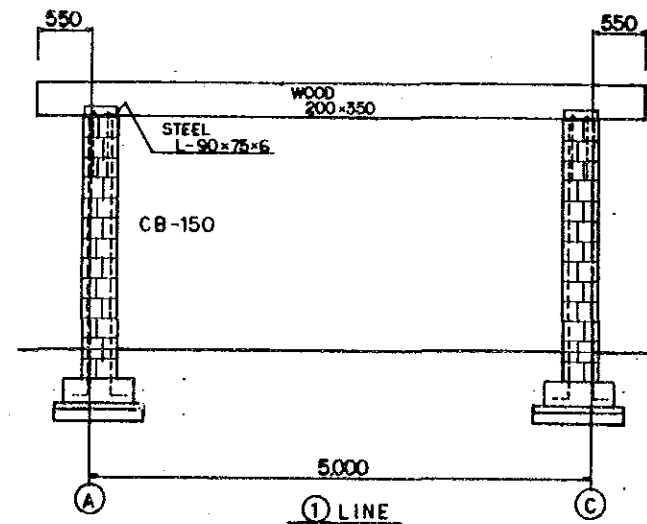
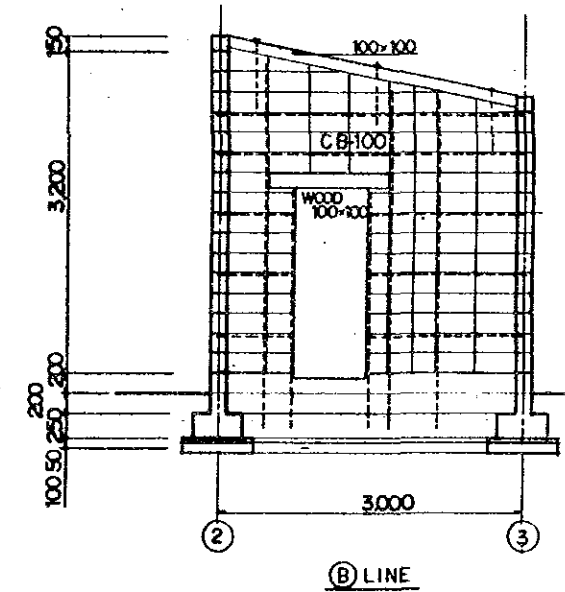
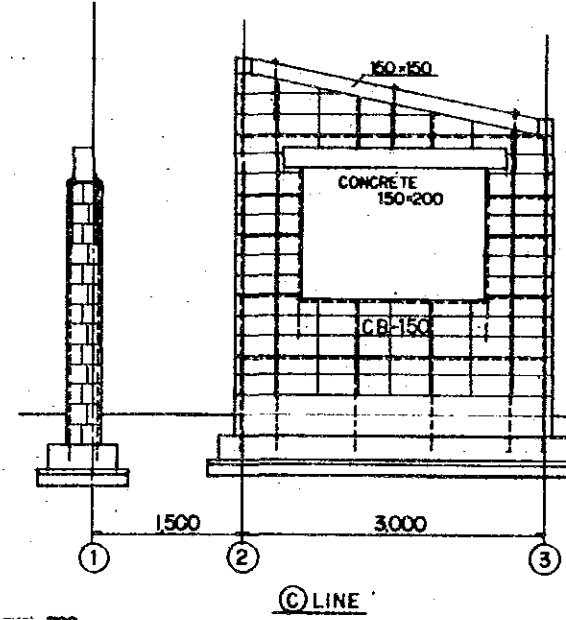
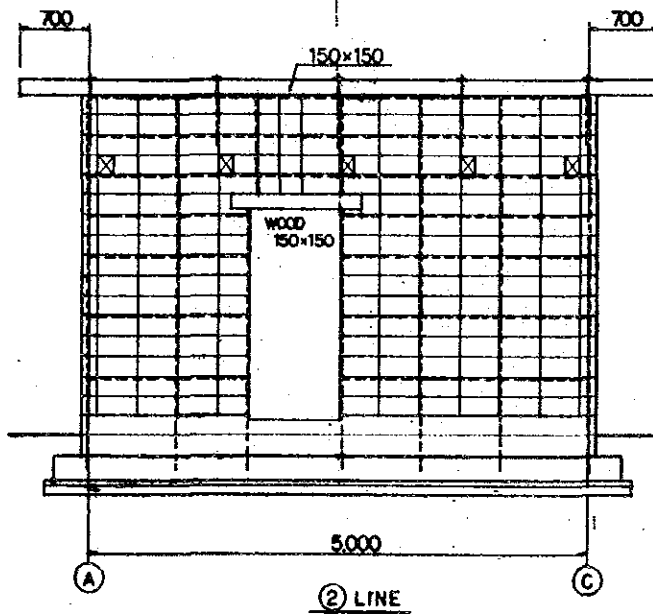
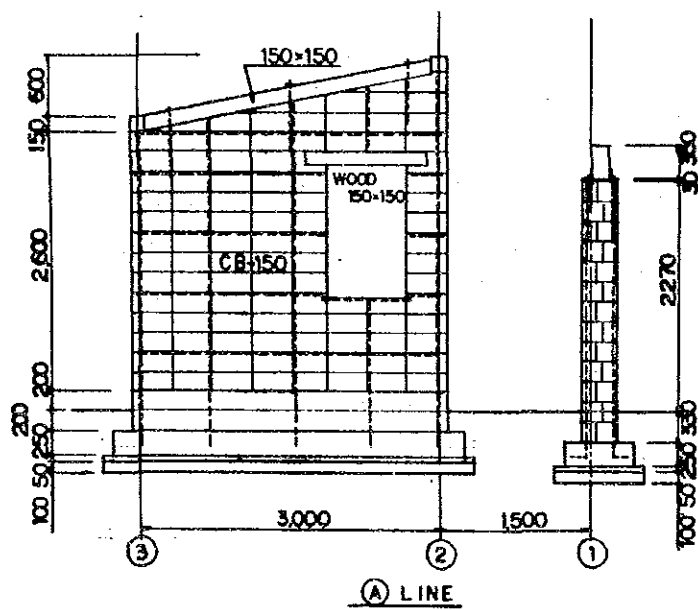
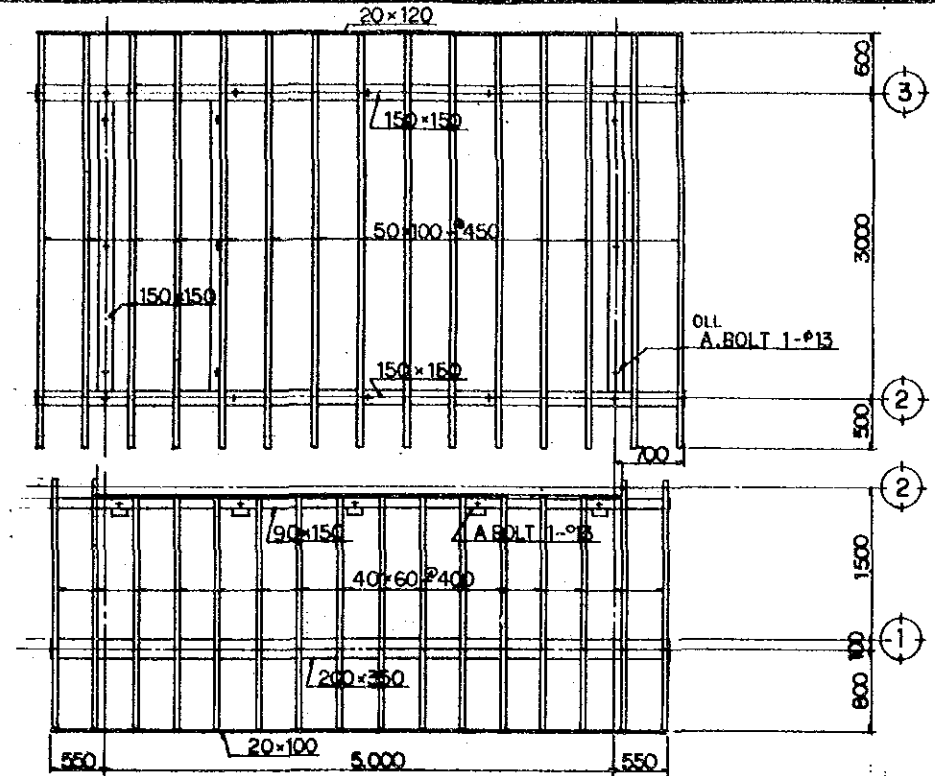
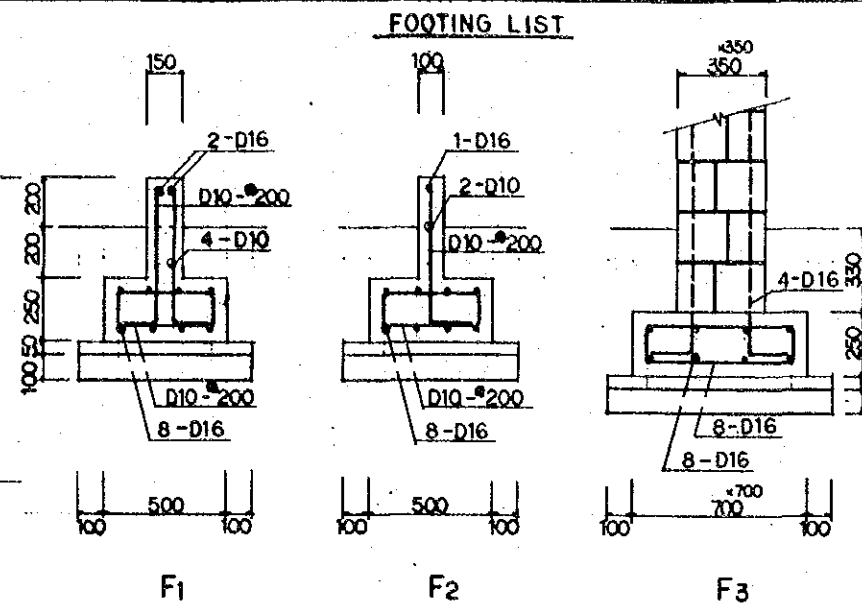
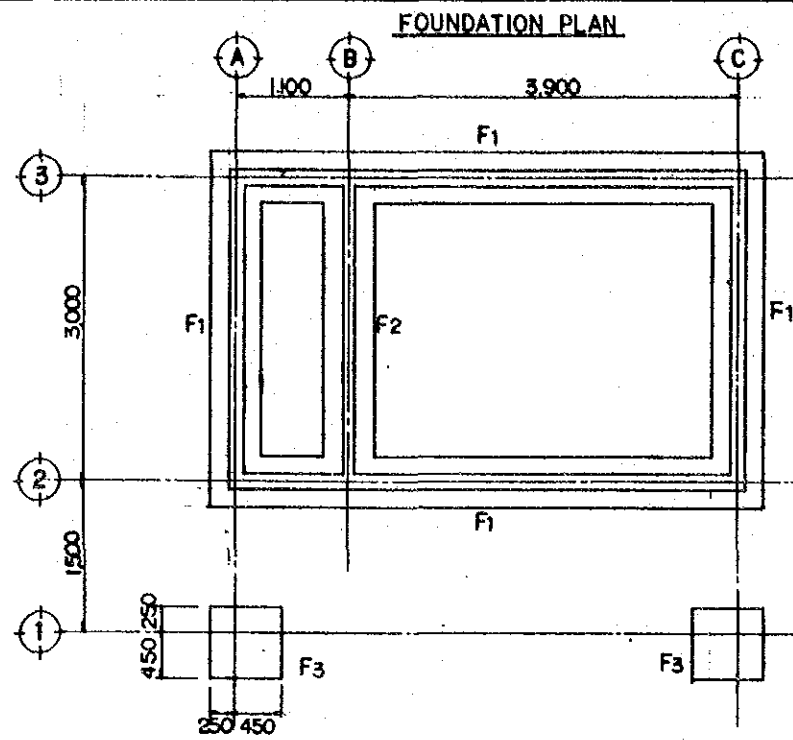
INSIDE INTERIOR ELEVATION



THE GOVERNMENT OF FIJI THE IMPROVEMENT OF RICE CULTIVATION TECHNOLOGY PROJECT	
TITLE OF DRAWING NAUSORI PROJECT	
STORAGE HOUSE (2)	
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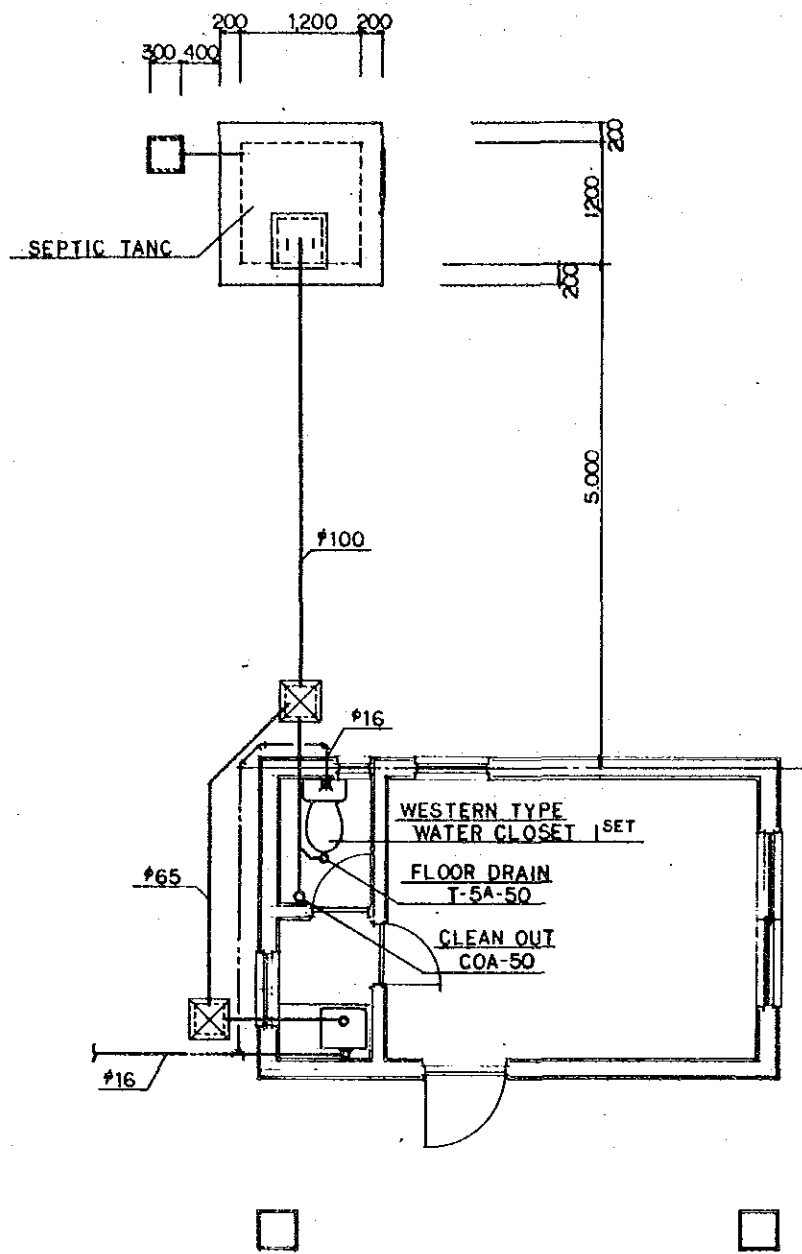


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 TITLE OF DRAWING HAUSORI PROJECT
STORAGE HOUSE (3)
 JAPAN INTERNATIONAL COOPERATION AGENCY
 TOKYO JAPAN
 DWG. NO
 29

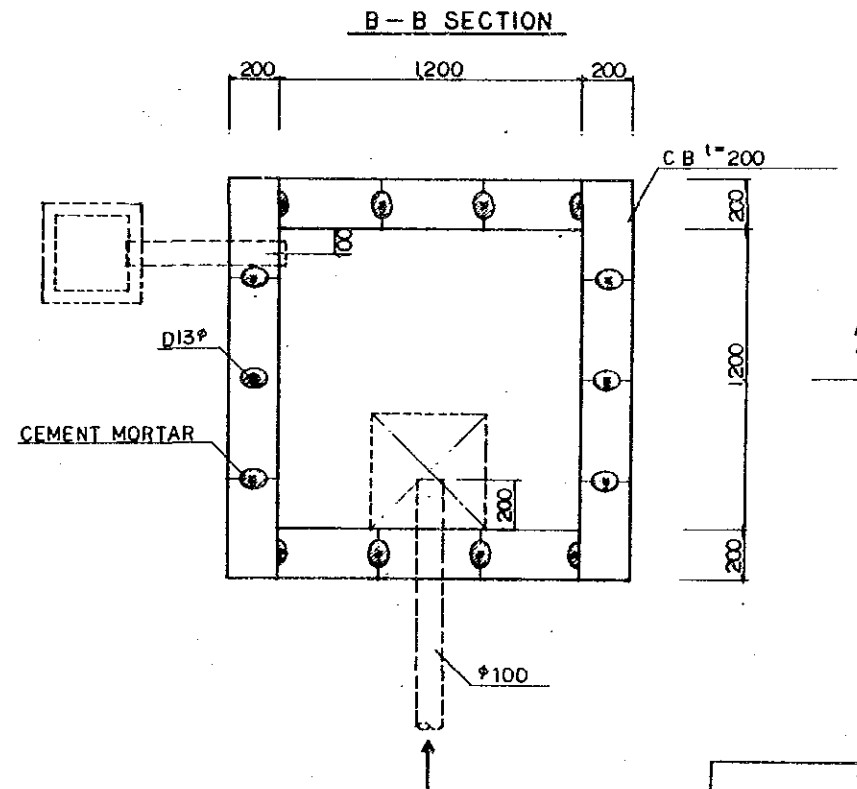
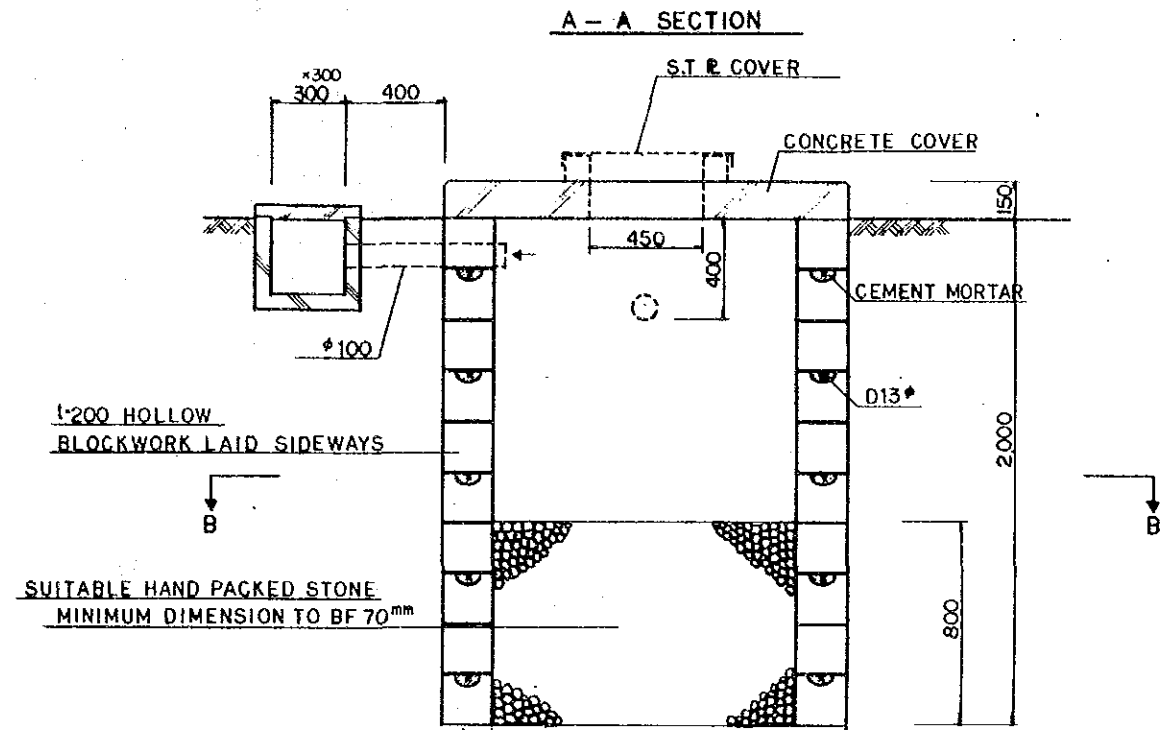


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WATER SUPPLY AND DRAINAGE SYSTEM



SEPTIC TANK DETAIL



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TITLE OF DRAWING NAUSORI PROJECT	
STORAGE HOUSE (5)	
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JICA