

4. Minutes of Discussion

4-1 Basic Design Study

MINUTES OF DISCUSSIONS
BASIC DESIGN STUDY
ON
THE HONIARA CENTRAL MARKET
DEVELOPMENT PROJECT
IN
SOLOMON ISLANDS

In response to a request from the Government of Solomon Islands, the Government of Japan decided to conduct a Basic Design Study on the Honiara Central Market Development Project (hereafter referred to as "the Project"), and entrusted the study to the Japan International Cooperation Agency (JICA). JICA dispatched to Solomon Islands a Basic Design Study Team headed by Mr. Takahiro SASAKI, Deputy Director of Second Basic Design Study Division, Grant Aid Study and Design Department, JICA, and the Team is scheduled to stay in the country from June 26 to July 20, 1995.

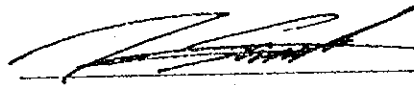
The Team held discussions with the officials concerned of the Government of Solomon Islands and conducted a field survey at the study area.

In the course of discussions and field survey, both parties have confirmed the main items described on the attached sheets. The Team proceeds to further works and prepares the Basic Design Study Report.

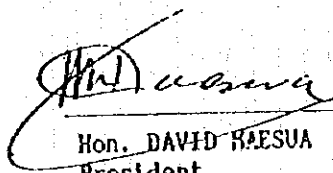
Honiara, July 5, 1995



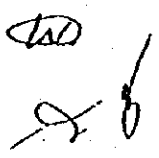
Ms. PHYLLIS TALOI KWAI
Permanent Secretary
Ministry of Agriculture & Fisheries
The Government of Solomon Islands



Mr. TAKAHIRO SASAKI
Leader
Basic Design Study Team
JICA



Hon. DAVID RAESUA
President
Honiara Town Council
Ministry of Home Affairs
The Government of Solomon Islands



ATTACHMENT

1. Objective

The Objective of the Project is to develop a marketing and distribution system and improving an efficiency, hygienic condition and amenities of the Honiara Central Market by providing necessary facilities and equipments, for the benefits of consumers, retailers and small scale producers, etc.

2. Project Sites

The Honiara Central Market along Mendana Avenue shown in ANNEX I.

3. Executing or Coordinating Agency

Implementing Agency:

Fisheries Division, Ministry of Agriculture & Fisheries

Operation/Maintenance Agency:

Honiara Town Council, Ministry of Home Affairs

4. Project Components requested by the Government of Solomon Islands

The project components requested by the Solomon side are listed in ANNEX II.

5. Japan's Grant Aid System

- 1) The Government of Solomon Islands understood the system of Japan's Grant Aid explained by the Team; the main features are described in ANNEX III.
- 2) The Government of Solomon Islands will take the necessary measures, described in ANNEX IV. for smooth implementation of the Project on condition that the Grant Aid Assistance by the Government of Japan is extended to the Project.

6. Further Schedule of the Study

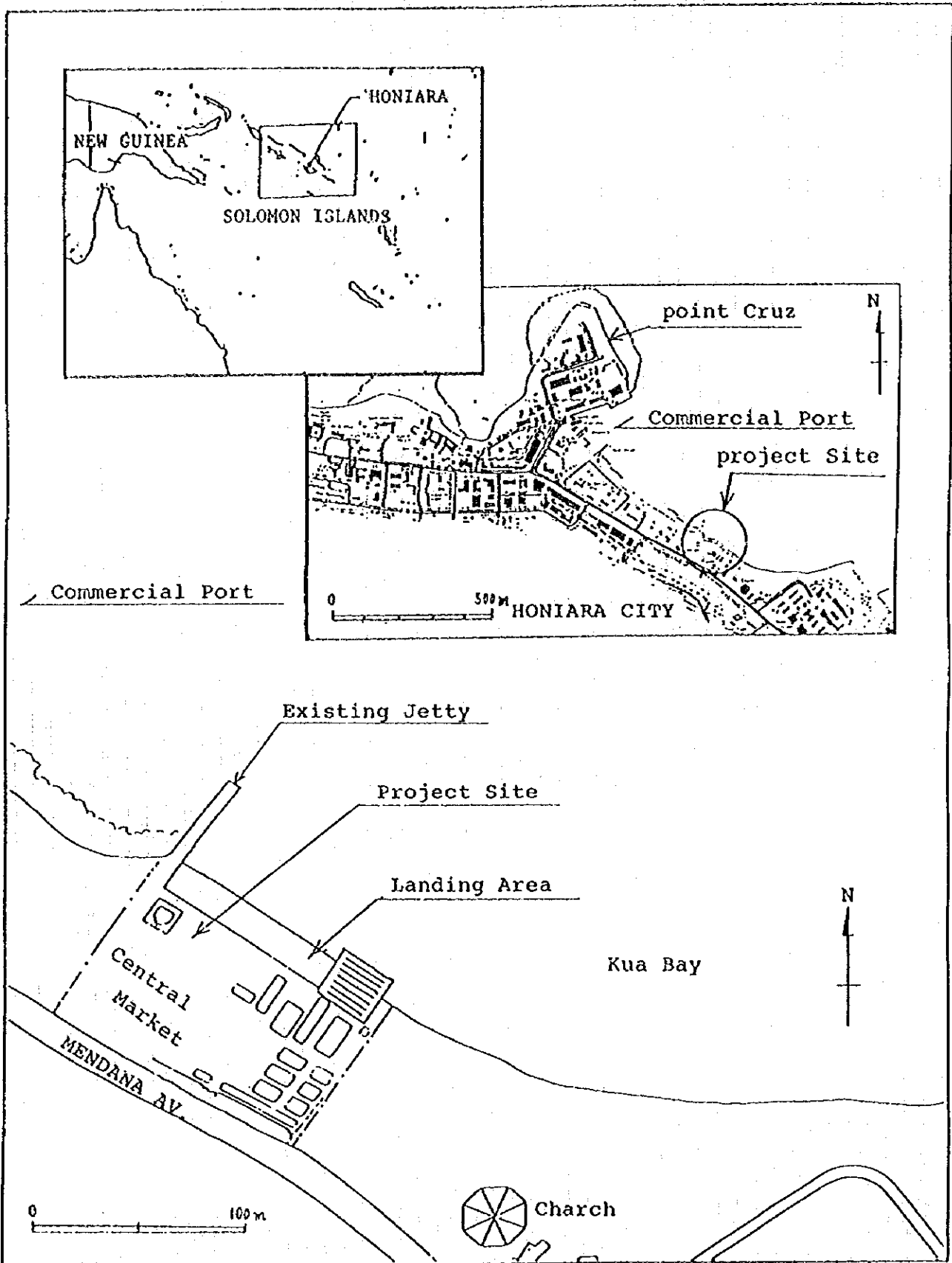
- 1) The consultants proceeded to carry out further studies in Solomon Islands until July 20, 1995.
- 2) JICA will prepare the draft basic design in English and dispatch a mission in order to explain its contents in the middle of September, 1995.
- 3) In case that the contents of the design is accepted in principle by the Government of Solomon Islands, JICA will complete the basic design study report and send it to the Government of Solomon Islands by January, 1996.

7. Particular note

- 1) The Government of Solomon Islands will secure temporary yard for construction work within the site.
- 2) The Government of Solomon Islands shall carry out a metal detection survey at the project site. The Government of Solomon Islands shall be responsible for the removal and disposal of any ordnance found during the metal detection survey at the expense of the Government of Solomon Islands.
- 3) The Government of Solomon Islands will close off the project site during the construction period.

ANNEX I

LOCATION OF THE PROJECT SITE



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ANNEX II

ITEMS REQUESTED BY THE GOVERNMENT OF SOLOMON ISLANDS

1. Facilities

1-1. Market Hall

- 1) Multipurpose open shed for vendors
- 2) Selling table and benches
- 3) Unloading and sorting area
- 4) Box commodities Stock area

1-2. Market Management Building

- 1) Market administration/staff rooms
- 2) Service rooms & meeting rooms
- 3) Storage
- 4) Air-conditioned insulated room
- 5) Ice storage bin
- 6) Esky storage area
- 7) Utilities

1-3. Market Service Building

- 1) Canteen
- 2) Kiosks
(Daily commodities shops, Fillet shops with display panel)

1-4. Market Service Facilities for Public

- 1) Paved parking
- 2) Service path & road
- 3) Pedestrian path
- 4) Public toilets
- 5) Rubbish disposal areas
- 6) Utilities (fresh water service)

1-5. Mechanical and Electrical Facilities

- 1) Waste water discharging facilities for rain & waste water
- 2) Septic tank and treatment tank
- 3) Electricity and water supply
- 4) External lighting
- 5) Plumbing

2. Equipment

2-1. Operational equipment

- 1) Ice storage equipment
- 2) Refrigerating equipment for air-conditioned insulated room
- 3) Push cart
- 4) Pick-up truck (with trailers)

ANNEX III

JAPAN'S GRANT AID SCHEME

I. Japan's Grant Aid

1) Japan's Grant Aid Program is executed through the following procedures.

Application	(Request made by a recipient country)
Study	(Basic Design Study conducted by JICA)
Appraisal & Approval	(Appraisal by the Government of Japan and Approval by Cabinet)
Determination of Implementation	(The Notes exchanged between the Governments of Japan and the recipient country)

2) Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA (Japan International Cooperation Agency) to conduct a study on the request.

Secondly, JICA conducts the study (Basic Design Study), using (a) Japanese consulting firm(s).

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Program, based on the Basic Design Study report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes signed by the Governments of Japan and the recipient country.

Finally, for the implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

2. Basic Design Study

1) Contents of the Study

The aim of the Basic Design Study (hereinafter referred to as "the Study") conducted by JICA on a requested project (hereinafter referred to as "the Project") is to provide a basic document necessary for the appraisal of the Project by the Japanese Government. The contents of the Study are as follows:

- a) Confirmation of the backgrounds, objectives, and benefits of the requested Project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation.
- b) Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, social and economic point of view.
- c) Confirmation of items agreed on by both parties concerning the basic concept of the Project.
- d) Preparation of a basic design of the Project
- e) Estimation of costs of the Project

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

3. Japan's Grant Aid Scheme

1) What is Grant Aid?

The Grant Aid Program provides a recipient country with non-reimbursable funds to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with the relevant laws and regulations of Japan. Grant Aid is not supplied through the donation of materials as such.

2) Exchange of Notes (E/N)

Japan's Grant Aid is extended in accordance with the Notes exchanged by the two Governments concerned, in which the objectives of the Project, period of execution, conditions and amount of the Grant Aid, etc., are confirmed.

3) "The period of the Grant" means the one fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedures such as exchanging of the Notes, concluding contracts with consultant firms and contractors and final payment to them must be completed.

However in case of delays in delivery, installation or construction due to unforeseen factors such as weather, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

4) Under the Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country.

However, the prime contractors, namely, consulting, constructing and

procurement firms, are limited to "Japanese nationals".

(The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

5) Necessity of "Verification"

The Government of recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals.

Those contracts shall be verified by the Government of Japan.

This "Verification" is deemed necessary to secure accountability to Japanese taxpayers.

6) Undertakings required to the Government of the Recipient Country

a) to secure a lot of land necessary for the construction of the Project;

b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities outside the site;

c) to ensure prompt unloading and customs clearance at ports of disembarkation in the recipient country and internal transportation therein of the products purchased under the Grant Aid;

d) to exempt Japanese nationals from customs duties, internal taxes and fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts;

e) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contracts such as facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work;

f) to ensure that under the Grant be maintained and used properly and effectively for the project, and

g) to bear all the expenses other than those covered by the Grant, necessary for the project.

7) "Proper Use"

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

8) "Re-export"

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

9) Banking Arrangement (B/A)

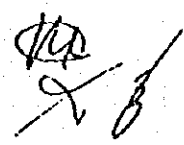
a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank").

The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the Verified Contracts.

b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an authorization to pay issued by the Government of the recipient country or its designated authority.

ANNEX IV NECESSARY MEASURES TO BE TAKEN BY THE GOVERNMENT OF
SOLOMON ISLANDS IN CASE JAPAN'S GRANT AID IS EXECUTED.

1. To secure the ownership and/or right of sites for the Project.
2. To clear the site prior to commencement of the Project.
3. To secure yard for stocking material and constructing temporary facilities at the Project site.
4. To ensure the access to the Project site.
5. To provide necessary permissions, licenses and other authorizations for smooth implementation of the Project.
6. To provide facilities for distribution of electricity, water supply, drainage, telephone line and other incidental facilities.
7. To bear commissions to the Japanese foreign exchange bank for the banking services based upon the Banking Arrangement.
8. To ensure prompt unloading and customs clearance of project equipments and materials at ports of disembarkation in Solomon Islands.
9. To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in Solomon Islands with respect to the supply of the products and services under the Verified Contracts.
10. To accord Japanese Nationals whose services may be required in connection with the supply of products and services under the Verified Contract such facilities as may be necessary for their entry into Solomon Islands and stay therein for the performance of their work.
11. To maintain and use properly and effectively the facilities constructed and equipment purchased under the Grant.
12. To bear all expenses other than those to be borne by the Grant, necessary for construction of facilities as well as for transportation and installation of equipment.
13. To coordinate and solve any matters which may arise with third parties and inhabitants living in the Project area during implementation of the Project.



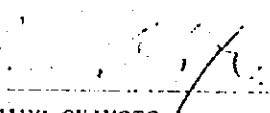
MINUTES OF DISCUSSIONS
BASIC DESIGN STUDY
ON
THE HONIARA CENTRAL MARKET
DEVELOPMENT PROJECT
IN
SOLOMON ISLANDS
(Consultation on the Draft Basic Design)

In June 1995, the Japan International Cooperation Agency (JICA) dispatched a Basic Design Study Team on the Honiara Central Market Development Project (hereinafter referred to as "the Project") to Solomon Islands, and through discussions, field survey, and technical examination of the results in Japan, has prepared the Draft Basic Design of the Project.

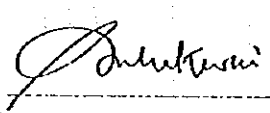
In order to explain and to consult the Solomon side on the components of the Draft Basic Design, JICA has sent to Solomon Islands a Study Team headed by Mr. Jun'ichiro OKAMOTO, Deputy Director, Far Seas Fishery Division, Oceanic Fishery Department, Fisheries Agency and the Team is scheduled to stay in the country from September 18 to 24, 1995.

As a result of discussions, both parties have confirmed the main items described on the attached sheets. The Team proceeds to further works and finalizes the Basic Design Study Report.

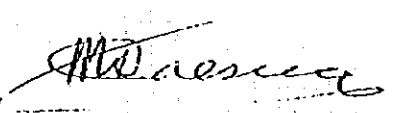
Honiara, September 22, 1995



Mr. JUN'ICHIRO OKAMOTO
Leader
Explanation Team for the
Draft Basic Design
JICA



Ms. PHYLLIS TALOIKWA
Permanent Secretary
Ministry of Agriculture & Fisheries
The Government of Solomon Islands



Hon. DAVID HAESUA
President
Honiara Town Council
Ministry of Home Affairs
The Government of Solomon Islands

ATTACHMENT

1. Components of the Draft Basic Design

The Government of the Solomon Islands has agreed and accepted in principle the components of the Draft Basic Design proposed by the Team.

2. Japan's Grant Aid System

1) The Government of Solomon Islands has understood the system of Japan's Grant Aid explained by the Team; the main feature is described in ANNEX I.

2) The Government of Solomon Islands will take the necessary measures, described in ANNEX II for smooth implementation of the Project on condition that the Grant Aid Assistance by the Government of Japan is extended to the Project.

3. Further Schedule

JICA will finalize the Basic Study Report in accordance with the confirmed items, and send it to the Government of Solomon Islands by January, 1996.

4. Particular Notes

(A) The Government of Solomon Islands shall take the following measures:

- 1) To carry out a metal detection survey at the Project site, and dispose any ordnance found in the course of the survey at their own expenses;
- 2) to close off the site, and provide alternative market functions for consumers and traders throughout the construction period of the Project;
- 3) to create an independent accounting system for the effective operation and proper maintenance of the Market;
- 4) to allocate the selling divisions, kiosks and other facilities, after the completion of the construction, to the retailers, producers and traders through a fair and proper procedure as to keep the publicness;
- 5) to maintain the hygienic conditions of the Market by periodical cleaning and proper maintenance of the facilities; and
- 6) to ensure that further efforts should be made to strengthen the fish marketing system of the Solomon Islands in connection of the Project.

(B) The Government of Solomon Islands confirms as follows;

- 1) It is the principle of Japanese Grant Aid Program that management and operation of facilities and equipments provided must be executed by public sectors of recipient Government. However, in case that the public sectors can not afford nor bear the management and operation with technical and economic reasons, it might be allowed to lease parts of facilities and equipments provided by the Project or to entrust private sectors with portions of management and operation of facilities and equipments in order to achieve the objectives of the Project.
- 2) In case of lease or entrusting, it should be guaranteed in the contract, etc. that the facilities and equipments be used properly and effectively for the purpose of the Project, based on the terms of reference set by the Government of the recipient country.
- 3) The ownership of the facilities and equipments shall remain the property of the Government of the recipient country and shall be secured under the control of the Government in any case.
- 4) The selection procedure of the private sectors for lease or entrusting shall be made through a fair and proper process of bidding, etc. as to keep the publicness among the third parties concerned.
- 5) When the recipient Government may obtain a revenue from the contract with private sectors, such revenue shall be used exclusively for the purpose of the Project to achieve the objectives of the Project.

ANNEX I: JAPAN'S GRANT AID SCHEME

I. Grant Aid Procedure

1) Japan's Grant Aid Program is executed through the following procedures.

Application	(Request made by a recipient country)
Study	(Basic Design Study conducted by JICA)
Appraisal & Approval	(Appraisal by the Government of Japan and Approval by Cabinet)
Determination of Implementation	(The Notes exchanged between the Governments of Japan and the recipient country)

2) Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA (Japan International Cooperation Agency) to conduct a study on the request.

Secondly, JICA conducts the study (Basic Design Study), using (a) Japanese consulting firm(s).

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Program, based on the Basic Design Study report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes signed by the Governments of Japan and the recipient country.

Finally, for the implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

2. Basic Design Study

1) Contents of the Study

The aim of the Basic Design Study (hereinafter referred to as "the Study") conducted by JICA on a requested project (hereinafter referred to as "the Project"), is to provide a basic document necessary for the appraisal of the Project by the Government of Japan. The contents of the Study are as follows:

- a) confirmation of the backgrounds, objectives, and benefits of the requested Project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation;
- b) evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from the technical, social and economic point of view;
- c) confirmation of items agreed on by both parties concerning the basic concept of the Project;
- d) preparation of a basic design of the Project; and
- e) estimation of costs of the Project.

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

2) Selection of Consultants

For the smooth implementation of the Study, JICA uses a consulting firm selected through its own procedure (competitive proposal). The selected firm participate the study and prepare a report based upon the terms of reference set by JICA.

At the beginning of implementation after the Exchange of Notes, for the services of the Detailed Design and Construction Supervision of the Project, JICA recommends the same consulting firm which participated in the Study to the recipient country, in order to maintain the technical consistency between the Basic Design and Detailed Design as well as to avoid any undue delay caused by the selection of a new consulting firm.

3. Japan's Grant Aid Scheme

1) What is Grant Aid?

The Grant Aid Program provides a recipient country with non-reimbursable funds to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with the relevant laws and regulations of Japan. Grant Aid is not supplied through the donation of materials as such.

2) Exchange of Notes (E/N)

Japan's Grant Aid is extended in accordance with the Notes exchanged by the two Governments concerned, in which the objectives of the Project, period of execution, conditions and amount of the Grant Aid, etc., are confirmed.

3) "The period of the Grant" means the one fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedures such as exchanging of the Notes, concluding contracts with consultant firms and contractors and final payment to them must be completed.

However in case of delays in delivery, installation or construction due to unforeseen factors such as weather, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

4) Under the Grant, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country.

However, the prime contractors, namely, consulting, constructing and procurement firms, are limited to "Japanese nationals".

(The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

5) Necessity of "Verification"

The Government of recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals.

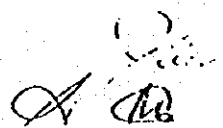
Those contracts shall be verified by the Government of Japan.

This "Verification" is deemed necessary to secure accountability to Japanese taxpayers.

6) Undertakings required to the Government of the recipient country

a) to secure a lot of land necessary for the construction of the Project and to clear the site;

b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities outside the site;



- c) to ensure prompt unloading and customs clearance at ports of disembarkation in the recipient country and internal transportation therein of the products purchased under the Grant Aid;
 - d) to exempt Japanese nationals from customs duties, internal taxes and fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts;
 - e) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contracts such as facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work;
 - f) to ensure that the facilities constructed and products purchased under the Grant Aid be maintained and used properly and effectively for the Project, and
 - g) to bear all the expenses other than those covered by the Grant Aid, necessary for the Project.
- 7) "Proper Use"
- The recipient country is required to maintain and use the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign the necessary staff for operation and maintenance of them as well as to bear all the expenses other than those covered by the Grant Aid.
- 8) "Re-export"
- The products purchased under the Grant Aid shall not be re-exported from the recipient country.
- 9) Banking Arrangement (B/A)
- a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank").
The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the verified contracts.
 - b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to Pay (A/P) issued by the Government of recipient country or its designated authority.

ANNEX II: UNDERTAKINGS BY THE GOVERNMENT OF SOLOMON ISLANDS

1. To secure the ownership and/or right of the site for the Project;
2. To clear and level the site for the Project prior to commencement of the construction;
3. To secure yard for stocking material and constructing temporary facilities at the Project site;
4. To provide a proper access road to the Project site;
5. To provide necessary permissions, licenses and other authorizations for smooth implementation of the Project;
6. To undertake incidental outdoor works, such as gardening, fencing and other incidental facilities in and around the Project site, if necessary;
7. To provide the following incidental facilities in connection with the site;
 - 1) Electricity distribution line to the site,
 - 2) City water distribution main to the site,
 - 3) Drainage main to the site,
 - 4) Telephone trunk line to the site, and
 - 5) General furniture such as carpet, curtain and others;
8. To ensure prompt unloading, tax exemption and customs clearance at ports of disembarkation in Solomon Islands and internal transportation therein of the products purchased under the Japan's Grant Aid;
9. To exempt Japanese nationals from customs duties, internal taxes and fiscal levies which may be imposed in Solomon Islands with respect to the supply of the products and services under the verified contracts;
10. To accord Japanese nationals whose services may be required in connection with the supply of products and services under the verified contracts such facilities as may be necessary for their entry into Solomon Islands and stay therein for the performance of their work;
11. To bear commissions, namely advising commissions of an Authorization to Pay (A/P) and payment commissions, to the Japanese foreign exchange bank for the banking services based upon the Banking Arrangement (B/A);
12. To ensure that the facilities rehabilitated and equipment purchased under the Japan's Grant Aid be maintained and used properly and effectively for the Project;
13. To bear all expenses, other than those covered by the Japan's Grant Aid, necessary for the Project; and
14. To coordinate and solve any matters which may arise with third parties and inhabitants living in the Project site during the implementation of the Project.

John
DA

5. Cost Estimation Borne by the Recipient Country

Cost Estimated of undertakings required to the Government of Solomon Islands is as follows.

1) Removal of existing facilities, and site preparation	SI\$ 46,400
2) Connection works of electricity	SI\$ 1,500
3) Connection works of water supply	SI\$ 900
4) Metal detection and bomb disposal	SI\$ 0
5) Others (bank commission, etc.)	SI\$ 24,100

Total

SI\$ 72,900

6. Result of Site Survey Works (Boring Logs)

D & A ENGINEERING COMPANY LIMITED
TOKYO, JAPAN

HONIARA FISH MARKET

DEVELOPMENT

STAGE II

SITE INVESTIGATION

REPORT

JULY, 1995

Kinhill Kramer (SI) Limited
P.O. Box 1337
HONIARA
SOLOMON ISLANDS

Ph. (677) 21996
Fax. (677) 22190

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 - . Particle Size Distribution (Sieve analysis)
 - . General Lab Tests

1.0 INTRODUCTION

D & A Engineering Company Limited, of Japan, acting for the Japan International Cooperation Agency (JICA) as detailed in an agreement signed on 27th day of June 1995, engaged Kinhill Kramer (S.I.) Limited to carry out geotechnical investigations and site survey at the Honiara Central Market site, Solomon Islands. The investigations were related to proposed upgrading of the market in order to incorporate a fish market. A survey grid was established over the whole market area with spot levels at 5m intervals along lines at 10m spacing and two boreholes were sunk at the locations shown in Diagram 1, using a mechanical rig.

2.0 METHOD OF INVESTIGATION

2.1 Field Work

The parameters established for the field work were scheduled as follows:-

- a. Mobilization and demobilization of the boring rig to the site. Setting up the boring rig at one position and moving to the next position.
- b. Boring Tests at the 2 locations, each to depth of 20metres.
- c. Conduct standard Penetration Tests (SPT) at 1m intervals of depth.
- d. Collect disturbed samples using a split-tube sampler.
- e. Take site photographs.
- f. Carry out Laboratory Tests.
 - 1) Specific Gravity
 - 2) Moisture Content
 - 3) Sieving analysis
 - 4) Liquid and Plastic Limits and P.I.

Field work consisted of drilling the two investigation bore-holes in the sequence BH -1, BH -2. Levels were all referenced to Chart Datum as given in the following table.

<u>Bore Hole</u>	<u>Ground Surface Elevation referenced to Chart Datum</u>
BH - 1	2.981
BH - 2	2.186

Ground water level was measured in BH-1, at RL 1.431 and BH2 at RL 1.556.

Borehole depths given in this report are depths below Ground Surface Elevation at the particular borehole as tabulated above.

BH1 was commenced on Wednesday, 28th June at 7.30a.m. and took two days to drill. Total drilling time was 22 hours.

BH2 was commenced on Friday, 30th June at 7.30 a.m. and took two days to drill. Total drilling time was 21 1/2 hours.

2.2 DRILL EQUIPMENT

The drill rig used for the work was a GEMCO HC 10 rig manufactured in Perth, Western Australia and given to the Department of Natural Resources under AIDAB grant by the Australian Government.

2.3 FIELD PROCEDURE

As required in the brief, each hole was subject to a Standard Penetration Test at 1m intervals and the sample collected and sealed in a plastic bag. For SPT testing, a standard apparatus was used with a 63.5kg hammer falling 750mm. Number of blows were recorded at 15cm, 30cm and 45cm at each 1m of depth. Varying lengths of sample were recovered, and in some cases the total sample was lost. Selected samples were delivered to the Laboratory of the Ministry of Transport, Works and Utilities (MTWU) for testing. Samples were combined in some cases where material was similar.

Material varied from plastic silts through sands and coral grit to quite chunky coral. The bore logs for each hole are attached as Appendix 1.

The holes indicated a relatively consistent layering over the area of the site investigated.

In the first 9 metres there are hard coral seams interspersed with weak coral and sandy silts with low 'N' values.

From 10 to 13 metres the coral gains strength. At 13 to 15 metres the material becomes firm marine sands of consistent texture and strength with 'N' value of 20 to 40. The sands are compact and fairly dry.

3.0 LAB TESTS

3.1 Particle Size Distribution

Samples tested were taken from the following depths in metres, and the results are in Appendix 2.

Borehole	BH1	BH2
	6-7	2-3
	9	7
	10-11	12-13
depth	12	17
(metres)	13	19-20
	14-15	
	16-18	
	19-20	

3.2 General Lab Tests The various lab. tests conducted in addition to Particle Size Distribution are listed as follows:-

Borehole	Depth (m)	LL	PL	PI	NMC (%)	SG
BH1	6-7	-	-	-	30	2.64
	9	38	31	7	48	2.54
	10-11	-	-	-	29	2.55
	12	-	-	-	28	2.69
	13	-	-	-	22	2.52
	14-15	-	-	-	34	2.61
	16-18	31	24	4	20	2.74
	19-20	48	37	11	34	2.62
B2	2-3	-	-	-	32	2.54
	7	-	-	-	26	2.66
	12-13	-	-	-	33	2.70
	17	-	-	-	22	2.68
	19-20	53	22	31	40	2.66

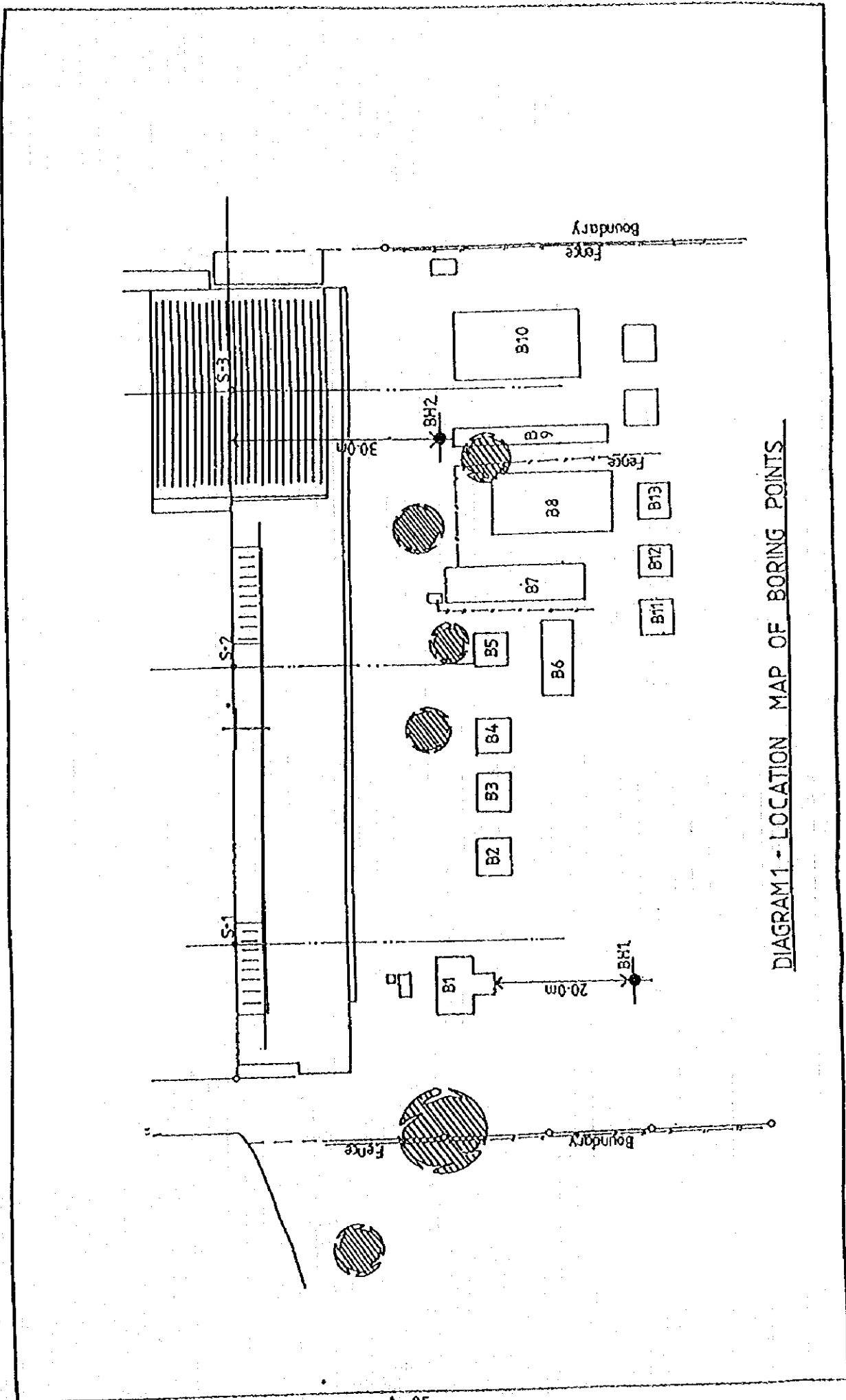


DIAGRAM 1 - LOCATION MAP OF BORING POINTS

HONIARA FISH MARKET DEVELOPMENT - STAGE II
 TABULATION OF LEVELS ON SURVEY GRID

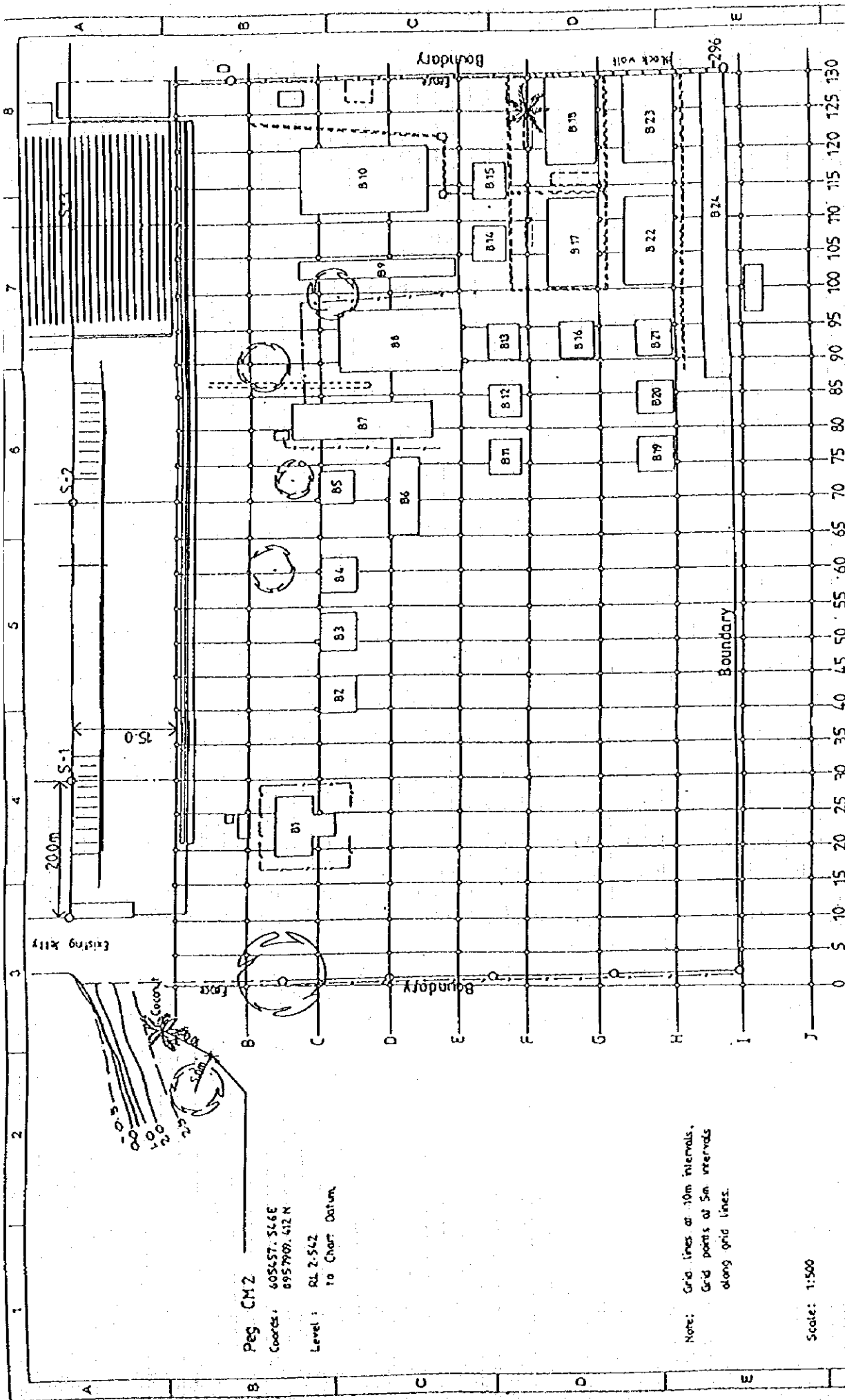
POINT	REDUCED LEVEL	POINT	REDUCED LEVEL	POINT	REDUCED LEVEL
A0	2.691	B0	2.704	C0	2.824
A5	2.272	B5	2.853	C5	2.886
A10	2.124	B10	2.743	C10	2.870
A15	2.128	B15	2.610	C15	2.889
A20	2.099	B20	2.522	C20	2.864
A25	2.076	B25	2.724	C25	2.724
A30	2.069	B30	2.408	C30	2.614
A35	2.072	B35	2.399	C35	2.501
A40	2.088	B40	2.324	C40	2.376
A45	2.085	B45	2.310	C45	2.306
A50	2.078	B50	2.286	C50	2.310
A55	2.072	B55	2.241	C55	2.281
A60	2.077	B60	2.224	C60	2.195
A65	2.072	B65	2.243	C65	2.382
A70	2.078	B70	2.224	C70	2.300
A75	2.062	B75	2.252	C75	2.405
A80	2.059	B80	2.239	C80	2.581
A85	2.073	B85	2.132	C85	2.219
A90	2.074	B90	2.074	C90	2.172
A95	2.064	B95	2.068	C95	2.181
A100	2.078	B100	2.099	C100	2.276
A105	2.074	B105	2.079	C105	2.365
A110	2.084	B110	2.102	C110	2.374
A115	2.078	B115	1.889	C115	2.589
A120	2.084	B120	2.094	C120	2.589
A125	2.089	B125	2.148	C125	2.446
A130	2.264	B130	2.344	C130	2.496
D0	2.848	E0	2.891	F0	4.096
D5	2.953	E5	3.041	F5	3.296
D10	2.951	E10	3.064	F10	3.300
D15	2.891	E15	3.029	F15	3.254
D20	2.853	E20	2.977	F20	3.222
D25	2.752	E25	2.956	F25	3.232
D30	2.663	E30	2.911	F30	3.224
D35	2.573	E35	2.884	F35	3.230
D40	2.460	E40	2.847	F40	3.248
D45	2.401	E45	2.825	F45	3.240
D50	2.358	E50	2.801	F50	3.237
D55	2.349	E55	2.796	F55	3.224
D60	2.353	E60	2.808	F60	3.206
D65	2.342	E65	2.834	F65	3.174
D70	2.377	E70	2.826	F70	3.160
D75	2.405	E75	2.769	F75	3.099
D80	2.725	E80	2.644	F80	3.132
D85	2.296	E85	2.667	F85	3.002
D90	2.786	E90	2.736	F90	2.952

HONIARA CENTRAL MARKET

POINT	REDUCED LEVEL	POINT	REDUCED LEVEL	POINT	REDUCED LEVEL
D95	2.786	E95	2.729	F95	2.928
D100	2.226	E100	2.644	F100	2.968
D105	2.421	E105	2.621	F105	2.984
D110	2.451	E110	2.656	F110	2.992
D115	2.589	E115	2.547	F115	2.994
D120	2.589	E120	2.717	F120	2.997
D125	2.574	E125	2.916	F125	3.009
D130	2.576	E130	2.921	F130	3.030
G0	4.153	H0	4.119	I0	4.335
G5	3.705	H5	4.096	I5	4.360
G10	3.655	H10	4.112	I10	4.355
G15	3.644	H15	4.054	I15	4.267
G20	3.626	H20	4.042	I20	4.171
G25	3.645	H25	4.014	I25	4.161
G30	3.632	H30	3.991	I30	4.141
G35	3.630	H35	3.974	I35	4.162
G40	3.626	H40	3.958	I40	4.167
G45	3.590	H45	3.949	I45	4.165
G50	3.550	H50	3.861	I50	4.163
G55	3.526	H55	3.929	I55	4.169
G60	3.523	H60	3.926	I60	4.177
G65	3.514	H65	3.910	I65	4.173
G70	3.486	H70	3.842	I70	4.158
G75	3.413	H75	3.742	I75	4.025
G80	3.414	H80	3.613	I80	3.944
G85	3.284	H85	3.542	I85	3.955
G90	3.234	H90	3.413	I90	3.875
G95	3.198	H95	3.435	I95	3.927
G100	3.152	H100	3.399	I100	3.813
G105	3.178	H105	3.460	I105	3.855
G110	3.176	H110	3.459	I110	3.833
G115	3.172	H115	3.361	I115	3.872
G120	3.180	H120	3.455	I120	3.905
G125	3.174	H125	3.441	I125	3.903
G130	3.188	H130	3.439	I130	3.844

HONIARA CENTRAL MARKET

POINT	REDUCED LEVEL	BUILDING	REDUCED FLOOR LEVEL	POINT	REDUCED LEVEL
J0	4.780	B1	3.090		
J5	4.790	B2	2.552		
J10	4.760	B3	2.351		
J15	4.755	B4	2.329		
J20	4.761	B5	2.474		
J25	4.762	B6	2.725		
J30	4.771	B7	2.581		
J35	4.763	B8	2.786		
J40	4.758	B9	2.263		
J45	4.753	B10	2.589		
J50	4.761	B11	3.122		
J55	4.833	B12	3.042		
J60	4.853	B13	3.000		
J65	4.857	B14	3.034		
J70	4.911	B15	3.014		
J75	4.967	B16	3.258		
J80	5.018	B17	3.473		
J85	5.072	B18	3.468		
J90	5.095	B19	3.852		
J95	5.117	B20	3.652		
J100	5.145	B21	3.535		
J105	5.175	B22	3.740		
J110	5.203	B23	3.755		
J115	5.201	B24	3.907		
J120	5.210	BH1	2.981	Borehole 1	
J125	5.223	BH2	2.186	Borehole 2	
J130	5.235				



Peg CM2

Coords: 605457.546E
8957907.412N

Level: RL 2.542
to Chart Datum

Note: Grid lines at 10m intervals.
Grid points at 5m intervals
along grid lines.

Scale: 1:500

No.	By	Date	Description	m	Drawn	H.P.
					Checked	
					Designed	
					Checked	

KINHILL KRAMER
Professional Practice Managers, Consulting Engineers, Architects, Surveyors

D & A ENGINEERING COMPANY LIMITED

DIAGRAM 2: SURVEY GRID
CENTRAL MARKET, HONIARA

Job No. 570148

Drawing No.

88557

10/7/95

DESCRIPTION AND CLASSIFICATION OF SOIL

Soils are classified on the basis of predominating grain size, modified by other significant grain size or sizes present (e.g. CLAYEY SAND) on the following basis:-

<u>Classification</u>	<u>Particle Size</u>
CLAY	less than 0.002mm
SILT	0.002-0.06mm
SAND	
fine sand	0.06-0.2mm
medium sand	0.2-0.6mm
coarse sand	0.6-2.0mm
GRAVEL	
fine gravel	2-6mm
medium gravel	6-20mm
coarse gravel	20-60mm
COBBLES	60-200mm
BOULDERS	greater than 200mm

COHESIVE SOILS are described in terms of consistency, colour and structure with comments on minor constituents or apparent special features. Consistency is based on the shear strength of the soil, and is generally estimated from experience, measured by hand penetrometer or determined by laboratory testing. Terms used in describing consistency are set out below:-

<u>Term</u>	<u>Unconfined Compressive Strength</u>	<u>SPT "N" Values Blows/300mm</u>
VERY SOFT	less than 24kPa	< 2
SOFT	24-48 kPa	2 - 4
FIRM	48-96 kPa	4 - 8
STIFF	96-192 kPa	8 - 15
VERY STIFF	192 - 388 kPa	15 - 30
HARD	greater than 388 kPa	> 30

NON-COHESIVE SOILS are described in terms of relative density, colour, with comments on minor constituents or apparent special features. Relative density or density index is generally based on standard penetration testing (AS1289 Test F3.1), or other forms of penetration testing. Terms used in describing relative density are set out below:-

<u>Term</u>	<u>Relative Density</u>	<u>SPT "N" Values blows/300mm</u>
VERY LOOSE	less than 15%	0 - 4 blows
LOOSE	15-35%	4 - 10 blows
MEDIUM DENSE	35-65%	10 - 30 blows
DENSE	65-85%	30 - 50 blows
VERY DENSE	> 85%	> 50 blows

APPENDIX I

BORING LOGS

BORING LOG

PROJECT: HONIARA MARKET - II GROUND ELEVATION: 2.981 m.

DATE: 30-06-95

HOLE NO.: B.H.1 GROUND WATER LEVEL: 1.431 m.

SURVEYED BY: P.V.A. READ.

DEPTH m	SOIL			STANDARD PENETRATION TESTS								
	VISUAL CLASSIFICATION	COLOUR	DESCRIPTION	NO. OF BLOWS AT EACH 15 cm			N VALUE					
				15 cm	30 cm	45 cm	10	20	30	40	50	60
1	GWL	gray/cream	rock/coral	60+	60+	60+						
2			coral	3	2	2.5						
3		cream	massive coral	25	60+	60+						
4			coral	4	0.5	1.0						
5		khaki	muddy coral	1.5	0.5	1.0						
6		cream	coral	12	19	10						
7				1.5	1.0	3						
8		khaki	muddy coral	3	1.5	2						
9			sandy clay	1	1	0.5						
10		gray	silty coral	1.5	2	18						
11				2	3	1.5						
12		white	coral	4.5	20	18						
13		gray	silty coral	9	10	19						
14		orange brown	dry silty sand (compact)	12	14	29						
15				8	11	25						
16		gray		18	55	26						
17		gray/white	corally silty sand (compact)	25	10	12						
18				12	12	60						
19		light brown	silty sand (compact)	10	7	10						
20				10	10	13						
21	BOREHOLE DISCONTINUED											
22												
23												
24												
25												
26												
27												
28												
29												
30												

REMARKS:

SYMBOLS OF SAMPLER

- THIN WALL SAMPLER
- SPLIT-SPOON SAMPLER

● DENIGER TYPE SAMPLER

⊞ FOIL SAMPLER

X OTHER SAMPLER

BORING LOG

PROJECT : HONIARA MARKET-II GROUND ELEVATION : 2.186 m.

DATE 02-07-95

HOLE NO. B.H. 2 GROUND WATER LEVEL : 1.556 m.

SURVEYED BY P.W.A. READ

DEPTH m	SOIL			STANDARD PENETRATION TESTS											
	VISUAL CLASSIFICATION	COLOUR	DESCRIPTION	NO. OF BLOWS AT EACH 15 cm			N VALUE								
				15 cm	30 cm	45 cm	10	20	30	40	50	60			
1	GWL	grey/cream	coral fill	8	9	6									
2		grey	sandy coral	2.5	2.5	5.5									
3			gritty coral	2.5	9.0	23									
4		white	crystalline coral	11	6	7									
5		grey	sandy coral	28	14	15									
6				2	3	2									
7		khaki	gritty coral	24	16	25									
8				3	2	1.5									
9		white	crystalline coral	52	16	12									
10		khaki		2	2	2									
11				9	6	9									
12		grey	sandy coral	5.5	10	9									
13				8	6	8									
14				4	4	2									
15				6	9	14									
16		khaki		3	5	4									
17			gritty sand	8	17	19									
18		dark grey		15	26	57									
19			fine silty sand(compact)	15	30	33									
20				11	23	60*									
21	BOREHOLE DISCONTINUED														
22															
23															
24															
25															
26															
27															
28															
29															
30															

REMARKS :

SYMBOLS OF SAMPLER

- ◆ THIN-WALL SAMPLER
- SPLIT-SPOON SAMPLER

- ⊙ DESIGN-TYPE SAMPLER
- ⊞ FOX-SAMPLER
- ✕ OTHER SAMPLER

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